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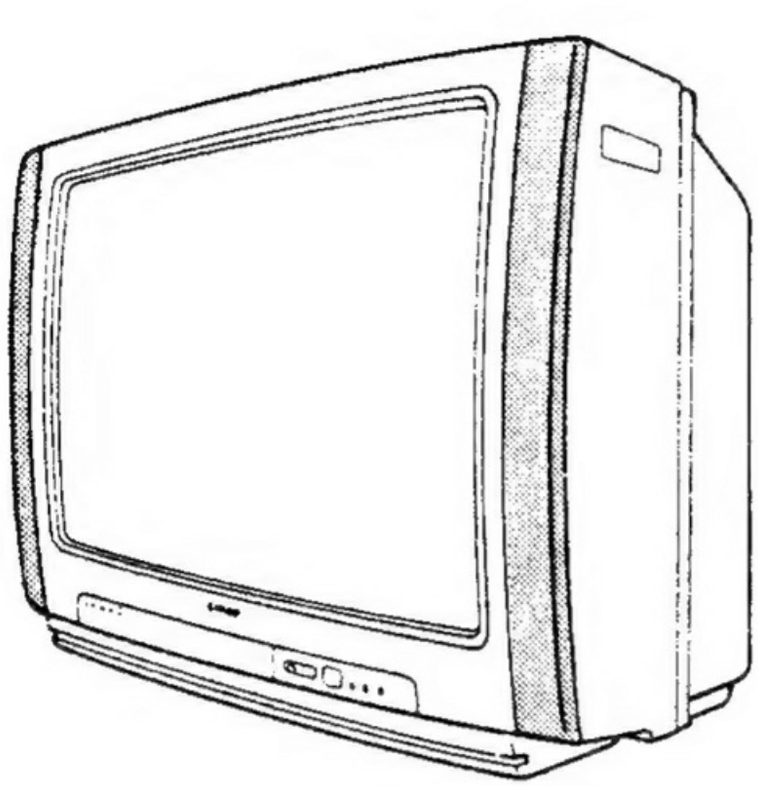
SHARP 25AN1 SERVICE MANUAL



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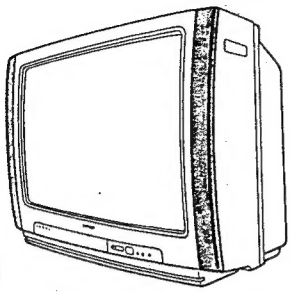
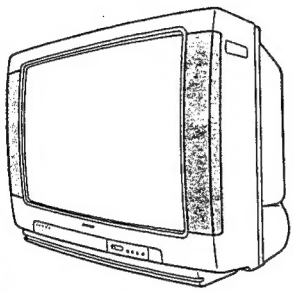
SHARP

SERVICE MANUAL
维修说明书

S82G325AN1///



25AN1



29AN1

28 SYSTEM COLOUR TELEVISION
28制式彩色电视机

Chassis No. C-200

MODELS 型号

25AN1
29AN1

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

为了用户安全起见(根据一些国家的安全规程的需要)，应将电视机保持于最初的状态，而且只能使用与指定物相同的部件。

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WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis. To prevent electric shock, do not remove cover. No user — serviceable parts inside. Refer servicing to qualified service personnel.

警 告

该电视机底板的有些部分通电。当维修本机底板时，请在电源线插头和电源插座之间使用隔离变压器。
为了防止电击的危险，不要去拆下机盖。在里面的部件，不是使用者所能维修的，必须委托够格的维修人员来进行维修。

SHARP CORPORATION

ELECTRICAL SPECIFICATIONS

Power Input ..... AC 110-240V (Auto) 50/60Hz

Power Consumption
- **25AN1** 155W
- **29AN1** 185W

Convergence ..... Self Converging System
Focus ..... Bi-Potential, Uni-Potential Electrostatic
Sweep Deflection ..... Magnetic
Intermediate Frequencies
- Picture IF Carrier 38.9MHz
- Sound IF Carrier
  - 6.5MHz 32.4MHz
  - 6.0MHz 32.9MHz
  - 5.5MHz 33.4MHz
  - 4.5MHz 34.4MHz
- Colour Sub-Carrier
  - PAL/NTSC 34.47MHz
  - SECAM 34.494/34.65MHz
  - NTSC 35.32MHz

Audio Power Output Rating ..... 7.5W × 2 (Max.)
Speaker
- Size (25AN1) ..... 12cm × 6cm Oval × 2 pcs.
  (29AN1) ..... 12cm × 8cm Oval × 2 pcs.
- Voice Coil Impedance ..... 8 ohms at 400 Hz

Specifications are subject to change without prior notice.

Aerial Input Impedance ..... 75 ohm Unbalanced
Receiving Channels
- PAL-B/G, SECAM-B/G
  - VHF ..... E2 thru E12
  - UHF ..... 21 thru 69
  - CATV ..... S1 thru S3, M1 thru M10, U1 thru U10
- PAL-D/K, SECAM-D/K
  - VHF ..... R1 thru R12
  - UHF ..... 21 thru 69, China 57
- PAL-I
  - VHF ..... (IRELAND): B thru J
  - UHF ..... (U.K., H.K.): 21 thru 69
- NTSC-M
  - VHF ..... (US): 2 thru 13
    (JAPAN): 1 thru 12
  - UHF ..... (US): 14 thru 79
    (JAPAN): 13 thru 62
  - CATV ..... A-6 thru A-1, A thru W, AA

Receiving Frequency
- VHF ..... 48.25 thru 295.25 MHz
- UHF ..... 471.25 thru 863.25 MHz

电路规格

电源输入 ..... 110～240V交流(自动选择) 50/60Hz

功率消耗
- **25AN1** 155W
- **29AN1** 185W

聚焦 ..... 自聚焦系统
焦点 ..... 双电位、单电位静电焦点
扫描偏转 ..... 磁致偏转
中频
- 图象中间载频 38.9MHz
- 声音中间载频
  - 6.5MHz 32.4MHz
  - 6.0MHz 32.9MHz
  - 5.5MHz 33.4MHz
  - 4.5MHz 34.4MHz
- 彩色副载波
  - PAL/NTSC制式 34.47MHz
  - SECAM制式 34.494/34.65MHz
  - NTSC制式 35.32MHz

音响额定输出功率 ..... 2×7.5W(最大值)
扬声器
- 尺寸 **25AN1** ..... 12×6cm椭圆×2个
  29AN1 ..... 12×8cm椭圆×2个
- 音圈阻抗 ..... 8Ω(400Hz时)

天线输入阻抗 75Ω非平衡式
接收频道
- PAL-B/G, SECAM-B/G
  - VHF(甚高频) ..... E2～E12频道
  - UHF(超高频) ..... 21～69频道
  - CATV(有线闭路电视) ..... S1～S3频道, M1～M10频道, U1～U10频道
- PAL-D/K, SECAM-D/K
  - VHF(甚高频) ..... R1～R12频道
  - UHF(超高频) ..... 21～69频道, 中国57频道
- PAL-I
  - VHF(甚高频) ..... (爱尔兰)：B～J频道
  - UHF(超高频) ..... (英国、香港)：21～69频道
- NTSC-M
  - VHF(甚高频) ..... (美国)：2～13频道, (日本)：1～12频道
  - UHF(超高频) ..... (美国)：14～79频道, (日本)：13～62频道
  - CATV(有线闭路电视) ..... A-6～A-1, A～W

接受频率
- VHF(甚高频) ..... 48.25～295.25MHz
- UHF(超高频) ..... 471.25～863.25MHz

规格如有改变将不再预先通知。

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10 kohm Resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. When repairing the circuit, be sure not to increase the high voltage to more than 32.0kV (25AN1 / 29AN1), (at beam 0μA) for the set.
2. To keep the set in a normal operation, be sure to make it function on 28.7kV ± 1.5kV (25AN1) (at beam 1.4mA) / 29.6kV ± 1.5kV (29AN1) (at beam 1.5mA) in the case of the set. The set has been factory — Adjusted to the above-mentioned high voltage.
   ∴ If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators etc.

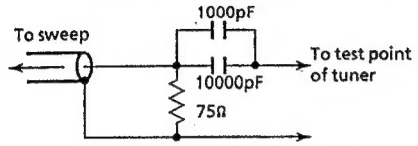
SERVICE ADJUSTMENT

PIF/AFT/SIF/AGC ADJUSTMENT

TUNER IFT COIL

The tuner has been factory preset (no adjustment is needed).

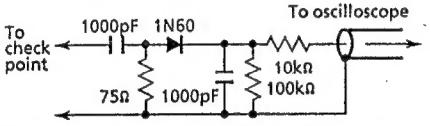
1. Keep the set without any signal input. Set V_T voltage at 11V in V_H band.
2. Connect sweep generator's output to the test point of tuner, by using a *75Ω DC cut probe.*



Connection Diagram of 75Ω DC Cut Probe.

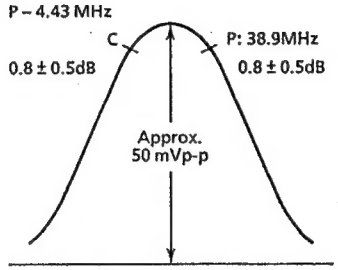
Note: The earth point of sweep generator's probe should be grounded closely to the tuner test point.

3. Output level of sweep generator: 80 dB
4. Connect response lead (*low impedance probe with detector*) to the IF output terminal of the tuner.



Connection Diagram of Low Impedance Probe (with Detector).

5. RF AGC: 0V.
6. Adjust the tuner IF coils to obtain the waveform as shown figure below.
   Note: For the adjustment, keep the tuner covered with its lid.



Adjust so that "P"and "C" are at the same level.

VCO FREE-RUN FREQUENCY ADJUSTMENT: T2003

1. Keep the set without any signal input.
2. Make a short-circuit between TP2002 and ground.
   Measure the voltage at TP2001 with a multimeter and record the reading.
   Note: Use a multimeter that has a scale in mV.
3. Connect the sweep generator's output to the IF output terminal of the tuner.
   - Frequency: 38.9MHz (CW) ± 5kHz.
   - Sweep output level: 80 to 90dBμV.

   Note: Before starting this adjustment, keep IC2001 energized for more than 2 minutes.
4. Break the short-circuit between TP2002 and ground. Adjust T2003 so that the multimeter should read the same voltage as that in the above step 2.
   - Accuracy: Reading in step 2 ± 10mV (3.2kHz/mV).

   At this time, observe the waveform at TP201 (detection output) on the oscilloscope screen to make sure there is an output of approx. DC 3V.
   - Range: DC 1V/div.

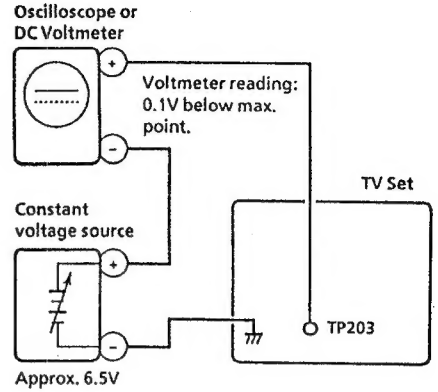
   Note: Check the waveform on the oscilloscope screen for noises or beating. Any noise or beating means maladjustment.

PIF/AFT/SIF/AGC ADJUSTMENT (Continued)

RF-AGC CUT-IN CONTROL: R219

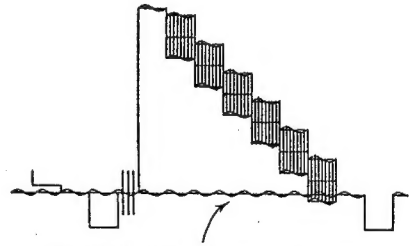
1. Tune the TV set in to the VHF high band (over channel E10) and receive "PAL COLOUR BAR" signal.
   - Field intensity: 57dB ± 1dBμV (with 75Ω terminated)

   Note: Adjust a 50-ohm field intensity meter to 55 to 56dB level if no 50/75 impedance transducer is used. Pay attention to a loss if using an impedance transducer.
2. Connect the oscilloscope or DC voltmeter to TP203.
3. Turn R219 to make the voltage highest.
4. Slowly turn R219 in the opposite direction until the voltage goes down 0.1V from the highest level.
5. Adjust the signal level to 63 to 67dBμV and make sure there is no noise.
6. Now adjust the signal level to 90 to 95dBμV and be sure that there is no cross modulation beat.



AFT COIL: T2002

1. Tune the TV set in to the VHF high band (over channel E10) and receive "PAL COLOUR BAR" signal.
   - Signal strength: Over 55dB, Below 80dB
2. Connect oscilloscope to TP201.
   - Range: 0.5V/div.
   - Sweep time: 20μsec/div.
   - Synchronization: Horizontal sync.
3. Connect the output of SSG (Standard Signal Generator) to the tuner IF output terminal across a capacitor of 1pF.
   - SSG output frequency: 38.9MHz (CW) 38.9MHz ± 5kHz
   - SSG output level: approx. 50dB
4. Set the preset switch at VHF-H tuning position and adjust FINE button (Up or Down) of tuning control so that the output waveform suffers no beating.
5. Set the preset switch at NORMAL position.
6. Adjust T2002 so that no beating is caused at the output waveform.
   - Adjustment error: 38.900MHz ± 25kHz



Finely adjust to make zero the beating

SOUND ADJUSTMENT

RF-SUB-SOUND ADJUSTMENT: R234

1. Receive the "SECAM COLOUR BAR" signal.
   • Sound modulation: 400Hz, 60%.
2. Connect oscilloscope to TP1301.
3. Adjust R234 so that the 400Hz sine waveform is 0.6Vp-p.
   • Adjustment error: 0.6 ± 0.04Vp-p.

SUB-SOUND ADJUSTMENT: R333

1. Receive the "PAL COLOUR BAR" signal.
   • Audio signal: 400Hz, 100% modulation
2. Connect the VTVM to TP1301.
3. Make sure the SURROUND mode is off.
4. Turn up the sound volume to maximum.
5. Adjust R333 so that the VTVM reading at TP1301 be 6.9 Vrms.

NOISE MUTE CHECKING

1. Receive the "PAL COLOUR BAR" signal. If not available, receive any broadcast station.
2. Turn up the volume control all the way and make sure sound comes out of the speakers. Then shut off the signal.
3. Make sure the sound mute effect is on.

PURITY ADJUSTMENT

Note: During the adjustment, keep the unit facing the east.

PURITY ADJUSTMENT

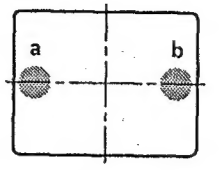


Figure A.

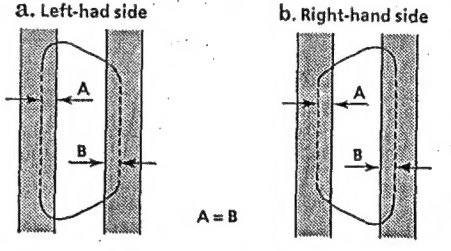


Figure B. Rank "A" landing

1. Prior to the purity adjustment, warm up the unit with beam current of 1.1mA, for more than 30 minutes.
2. Receive the green signal alone and adjust the Contrast control so that the beam current is 1.1mA.
3. Fully degauss the CRT with the degaussing coil.
   • Vertical B_V: $+0.20 \times 10^{-4}$T (+ 0.20gauss)
   • Horizontal B_H: 0T (0 gauss)
4. Set the purity magnet at the position which gives zero (0) magnetic field.

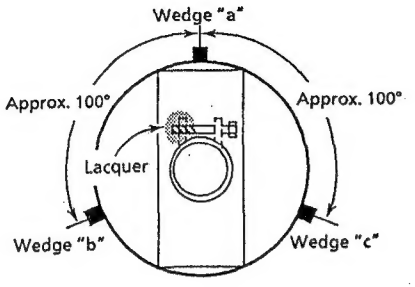
Adjustment:

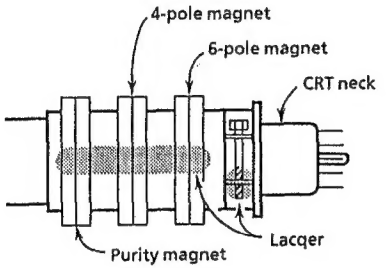
5. Observe the green spots ("a" and "b") with a microscope as shown *Fig. A*, and adjust the purity magnet so that they are at the specified landing position (Rank "A").
6. Set the raster rotation at "0" position (with the unit facing the east).
7. Tighten the screws of the deflection coil. Tightening torque: 11 kg ± 2 kg.
8. Look at the CRT corners. Apply the magnet sheets so that the landings should be of Rank "A".

CONVERGENCE ADJUSTMENT

Note: During the adjustment, keep the unit facing the east.

CONVERGENCE ADJUSTMENT





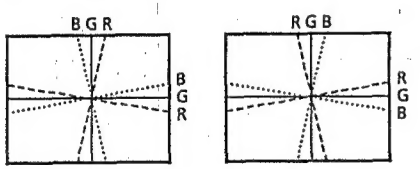


Figure a.

Figure b.

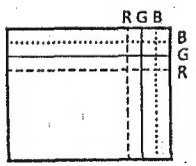


Figure c.

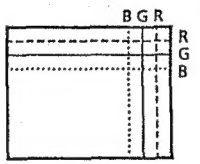


Figure d.

This adjustment should be performed after the purity magnet adjustment.

1. Receive "CROSSHATCH PATTERN" signal.
2. Set the Brightness control and Contrast control at MAX position.

STATIC CONVERGENCE

3. Adjust the opening degree of the 4-pole magnet and rotate the magnet to converge red and blue lines.
4. Adjust the opening degree of the 6-pole magnet and rotate the magnet to converge red, blue and green lines.

DYNAMIC CONVERGENCE

5. Dynamic convergence (convergence of the three colour fields) at the edges of CRT screen is accomplished in the following manner.

Convergence in *Fig. a*:
Insert wedge"a" between the deflection yoke and CRT, and tilt the deflection yoke upward until the mis-convergence shown in *Fig. a* is corrected.

Convergence in *Fig. b*:
Insert wedges "b" and "c" between the deflection yoke and CRT, and tilt the deflection yoke until the mis-convergence shown in *Fig. b* is corrected.

Convergence in *Fig. c*:
Insert wedge "c" deeply between the deflection yoke and CRT, and tilt the deflection yoke to right until the mis-convergence shown in *Fig. c* is corrected.

Convergence in *Fig. d*:
Insert wedge "b" deeply between the deflection yoke and CRT, and tilt the deflection yoke to left until the mis-convergence shown in *Fig. d* is corrected.

6. Stick the three wedges onto the CRT, and apply glass tapes thereon.
7. Apply lacquer to the deflection yoke screw, magnet unit (made of purity, 4-pole and 6-pole magnets) and magnet unit screw.

After the adjustment, receive either the Red or the Blue signal and check that there is no mixture with the other colour signal.

HORIZONTAL AND VERTICAL CIRCUIT ADJUSTMENT

VERTICAL LINEARITY: R514

1. Receive the "MONO SCOPE PATTERN" signal.
2. Press the video "N" key of the remote controller.
3. Roughly adjust Vertical Size control R510 to given an 8% overscan.
4. Adjust R514 for optimum vertical linearity. This is achieved by making the upper and lower halves of the circular pattern symmetric.

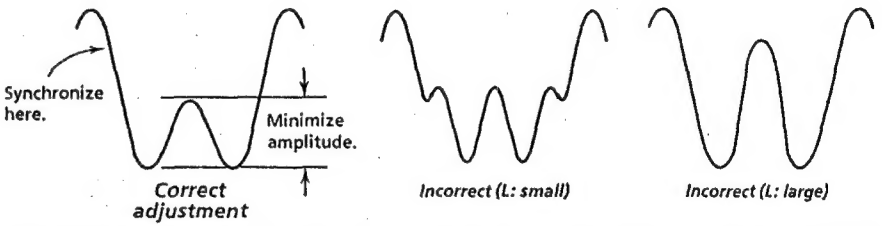
VERTICAL CENTRE and VERTICAL SIZE

- S501: Vertical Centre
- R510: Vertical Size

1. Receive the "MONO SCOPE PATTERN" signal.
2. Press the video "N" key of the remote controller.
3. Adjust Vertical Centre switch S501 at the position where thr pattern's vertical centre coincides with the CRT's geometrical vertical centre. S501 is a step-by-step rotary switch. Set it at the optimum position.
4. Adjust Vertical Size control R510 to obtain an 8% overscan.

DYNAMIC "S"-CURVE CORRECTION: L606 (only 29AN1)

1. Receive the "MONO SCOPE PATTERN" signal.
2. Press the "N" key of the remote controller.
3. Connect the oscilloscope's probe across L603. (The earth lead should be connected to the junction with C2607.)
4. Adjust dynamic "S" curve correction coil L606 so that the correction signal waveform is synchronized and its amplitude minimum.



HORIZONTAL SIDE PIN (only 29AN1), HORIZONTAL CENTRE and HORIZONTAL SIZE

- R644: Horizontal Side Pin (only 29AN1)
- R602: Horizontal Centre
- R632(29AN1): Horizontal Size
- L606(25AN1): Horizontal Size

1. Receive the "MONO SCOPE PATTERN" signal and roughly adjust Horizontal Size control L606 or R632 to give about 8% overscan.
2. Receive the "CROSSHATCH PATTERN" signal.
3. Press the "N" key of the remote controller.
4. Adjust the Side Pin control R644 to the optimum position, which is obtained where the second lines from the crosshatch pattern's right and left edges become straight. (only 29AN1)
5. Receive the "MONO SCOPE PATTERN" signal.
6. Align the pattern's horizontal centre with the CRT's geometrical horizontal centre by adjusting Horizontal Centre control R602.
7. Adjust Horizontal Size control L606 (25AN1) / R632 (29AN1) to give and 8% overscan.
8. Receive the "CROSSHATCH PATTERN" signal.
9. Readjust R644 accurately to achieve optimum side pin setting. (only 29AN1)

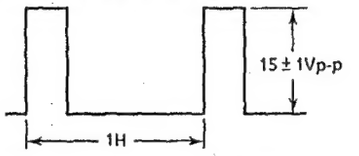
VIDEO CIRCUIT ADJUSTMENT

CRT CUT-OFF and SUB-BRIGHTNESS ADJUSTMENT

- R403 : Sub Bright
- R2816: Red Bias control
- R2817: Green Bias control
- R2818: Blue Bias control
- Screen control (a part of T601)
- R2811: Green Drive control
- R2812: Blue Drive control

Note: Prior to this adjustment, warm up the unit with the beam current of 1100μA for more than 30 minutes.

1. Receive "MONOSCOPE PATTERN" signal.
2. Set R-bias control at MIN (0/10) position.
   Set G-bias control at MIN (0/10) position.
   Set B-bias control at MIN (0/10) position.
   Set G-drive control at CENTER (5/10) position.
   Set B-drive control at CENTER (5/10) position.
3. Turn on the video "N" key on the remote controller.
4. Set the Contrast control at MIN position.
5. Set the Screen control at MIN (0/10) position.
6. Connect the oscilloscope to TP2801 (red cathode).
7. Set service switch S401 at the horizontal line position.
8. Adjust Sub-Brightness control R403 to obtain a blanking pulse level of 15V ± 1Vp-p at TP2801.



9. Disconnect thhe oscilloscope fromTP2801.
10. Slowly turn the Screen control clockwise and stop it where the horizontal raster appears slightly, in one of the three colours.
11. Carefully adjust the Bias controls of the other two colours until the horizontal raster becomes white.
12. Turn the Screen control counterclockwise until the horizontal raster just disappears.

WHITE BALANCE and BACK GROUND

- R2811: Green Drive control
- R2812: Blue Drive control
- R416: Sub-Contrast control

Note: Prior to this adjustment, warm up the unit with the beam current of 1100μA for more than 30 minutes.

1. Receive "MONOSCOPE PATTERN" signal.
2. Press the video "N" key of the remote controller. Contrast will thereby become maximum and brightness medium.
3. Connect the ammeter to TP601 and TP602. (Full scale: 3 mA)
4. Adjust the Sub-Contrast control to obtain a beam current of approx. 1.4mA (25AN1) or 1.5mA (29AN1). (rough adjustment)
5. Adjust Green Drive and Blue Drive controls to obtain a colour temperature of 9300°K (white).
6. Reduce the beam current to approx. 200μA by adjusting the Contrast and Brightness controls, and check the background colour. If the colour tempereture is not 9300°K, repeat the adjustment in step 5.

SUB-CONTRAST CONTROL: R416

Note: Prior to this adjustment, warm up the unit with the beam current of 1100μA for more than 30 minutes.

1. Receive "MONOSCOPE PATTERN" signal.
2. Press the video "N" key of the remote controller. Contrast will thereby become maximum and brightness medium.
3. Connect the ammeter between TP601 (−) and TP602(+), and select the 3mA range.
4. Adjust Sub-Contrast control to obtain a beam current of 1.4mA (for 25AN1) or 1.5mA (for 29AN1).
   Note:
   Beam current should become approx. 1.45mA (for 25AN1) or 1.55mA (for 29AN1) when both the Contrast and Brightness controls are set to maximum.

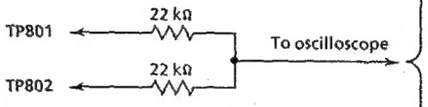
CHROMA CIRCUIT ADJUSTMENT "PAL"

PAL CHROMA ADJUSTMENT

- *R1810:* 1H-delay amp. control
- T1801: 1H-delay phase control

Note: PIF/AFT/AGC adjustments should have been completed before starting this adjustment.

1. Receive the "PAL COLOUR BAR" signal.
2. Connect the following resistance matrix to TP801 and TP802, to which an oscilloscope is connected.



Resistance Matrix

3. Set service switch S401 at the Video Cut position to cut off the Y-signal.
4. Press the video "N" key of the remote controller.
5. Operating the colour control key on the remote controller, adjust the difference between the green and magenta signal levels to 1.5Vp-p as shown in Fig. A.
6. Adjust R1810 and T1801 so that the output waveform becomes as shown in Fig. B.
7. Set service switch S401 to the centre position.

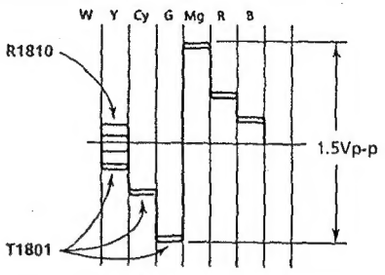


Figure a. Waveform before the adjustment

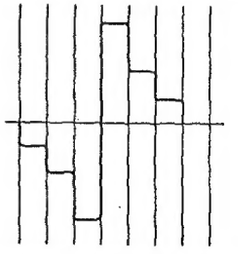
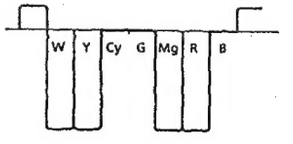


Figure b. Waveform after the adjustment

PAL SUB-COLOUR: R1804

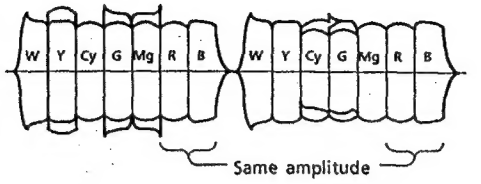
1. Receive the "PAL COLOUR BAR" signal.
2. Turn on the video "N" key of the remote controller.
3. Connect the oscilloscope to TP2801 (red cathode).
   - Range: 20V/div.
   - Sweep time: 20μsec/div.
4. Adjust R1804 so that the white signal (75%) and red signal have the same level as shown below.



CHROMA CIRCUIT ADJUSTMENT "SECAM"

BELL FILTER ADJUSTMENT: T1903

1. Receive "SECAM COLOUR BAR" signal.
2. Connect oscilloscope to TP901 with the following settings.
   - Range: AC 0.05 V/div.
   - Sweep Time: 20μsec/div.
   - Probe: 1/10 (30pF, 10MΩ or more)
3. Adjust the Bell Filter (T1903) so that the red and blue portions of the colour bar signal should have the same amplitude.



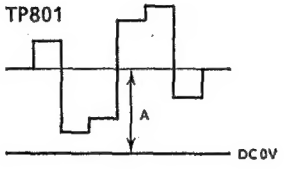
SECAM KILLER ADJUSTMENT: T1904

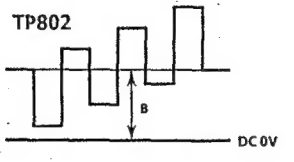
1. Receive "SECAM COLOUR BAR" signal.
2. Connect oscilloscope to TP902 with the following settings.
   - Range: DC 1V/div. (Adjust vertical position properly.)
   - Sweep Time: 20 μsec/div.
3. Adjust T1904 to obtain maximum DC voltage (approx. 7.5V) at TP902.

B-Y (T1901), R-Y (T1902) DISCRIMINATOR ADJUSTMENT

Note: Connect a 0.001μF capacitor to TP801 and TP802 respectively to filter out interference noise.

1. Receive "SECAM COLOUR BAR" signal.
2. Connect the oscilloscope (with two channels) to TP801 (R-Y) and the TP802 (B-Y), both located on the CRT Socket Unit (PWB-B) of the set.
   - Range: DC 2V/div.
   - Sweep Time: 10 μsec/div.
3. Set service switch S401 at the Video Cut position to cut-off the Y-signal.
4. Set both the Contrast and Brightness controls to their maximum positions.
5. Adjust T1901 and T1902 so that the DC output levels obtained when the colour control is set to minimum (black and white level) and those when set to 100% colour saturation become the same.
6. Set service switch S401 to the center position.

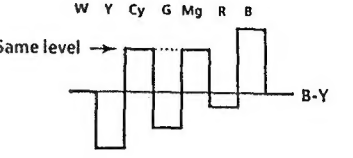




CHROMA CIRCUIT ADJUSTMENT "NTSC"

SUB-HUE: R1805

1. Receive "NTSC COLOUR BAR" signal.
2. Connect oscilloscope to TP802 (B-Y).
3. Turn on the video "N" key of the remote controller.
4. Set service switch S401 to the Video Cut position to cut-off the Y-signal.
5. Operating the Colour control key on the remote controller, adjust the B-Y waveform to approx. 3Vp-p.
6. Adjust Sub-Hue control R1805 so that the waveform is obtained.
7. Set service switch S401 to the center position.



PROTECTOR PERFORMANCE CHECK

BEAM PROTECTOR

1. Receive "MONO SCOPE PATTERN" signal.
2. Adjust the Contrast control to maximum.
3. Adjust the Brightness control to maximum.
4. Make the collector and emitter of Q2801 short-circuited.
5. Confirm that the protector is activated and selects the stand-by mode.

HIGH VOLTAGE PROTECTOR

1. Receive "MONO SCOPE PATTERN" signal.
2. Connect the bias box across R685.
3. Check the functioning of the H.V. protector with different voltages applied through the bias box as follows:
   - It should not operate at 20V.
   - It should operate at 24V.

PICTURE CONTROL KEY PERFORMANCE CHECK

CONTRAST KEY

1. Receive "MONO SCOPE PATTERN" signal.
2. Using the picture select switch, call the contrast mode.
3. Confirm that the screen contrast changes when the Up/Down key is pressed.

SURROUND

1. Set the Surround switch in the front-door to S-WIDE.
2. Push the Surround switch of Remote Controller and make sure that the surround LED is light-up.

COLOUR KEY

1. Receive "NTSC COLOUR BAR" signal.
2. Using the picture select switch, call the colour mode.
3. Confirm that the colour changes when the Up/Down key is pressed. (The picture should be completely discoloured when the colour level is set to minimum.)

CHANNEL SIGN DISPLAY COLOUR

Make sure all the channel signs (Channels 1 thru 39) are displayed in green.

BRIGHTNESS KEY

1. Receive "MONO SCOPE PATTERN" signal.
2. Using the picture select switch, call the brightness mode.
3. Use the Up/Down key to make sure the black level changes.

BLUE BACK SWITCH

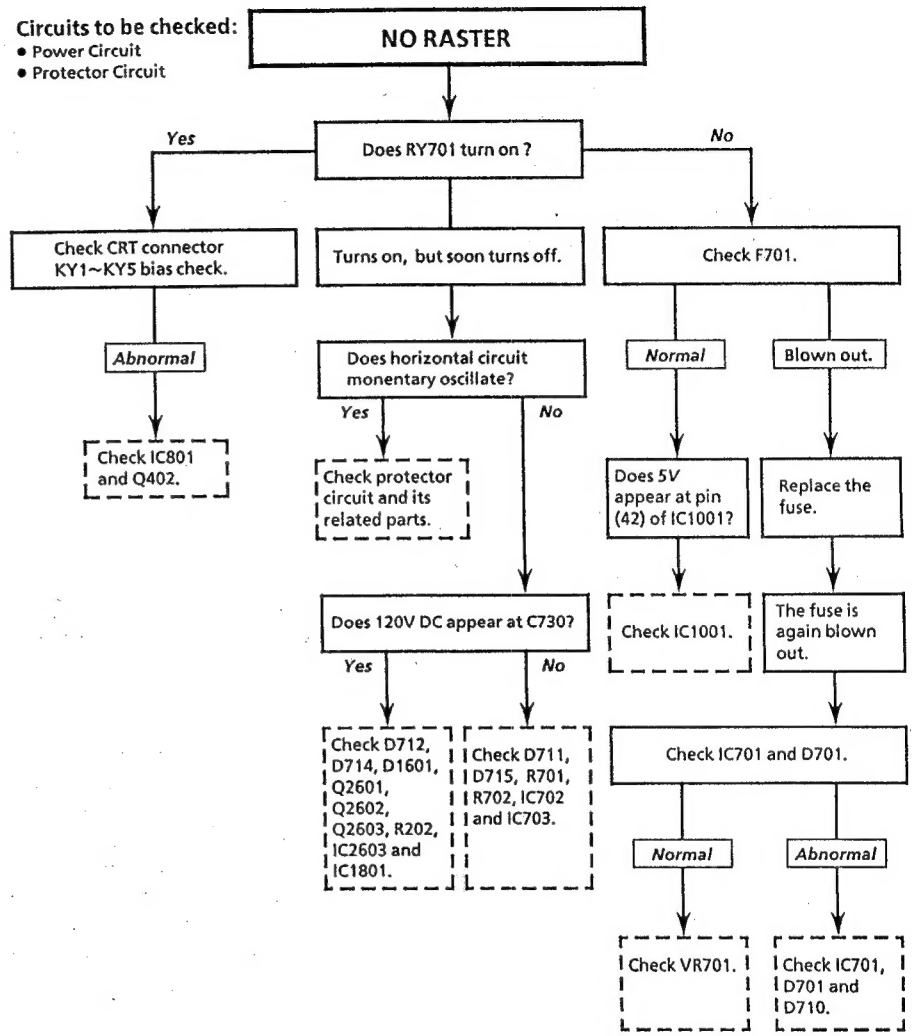
Turn on the blue back switch. With no signal input, make sure the screen background turns blue. Turn it off to see if the blue back effect is cut-off.

TINT KEY

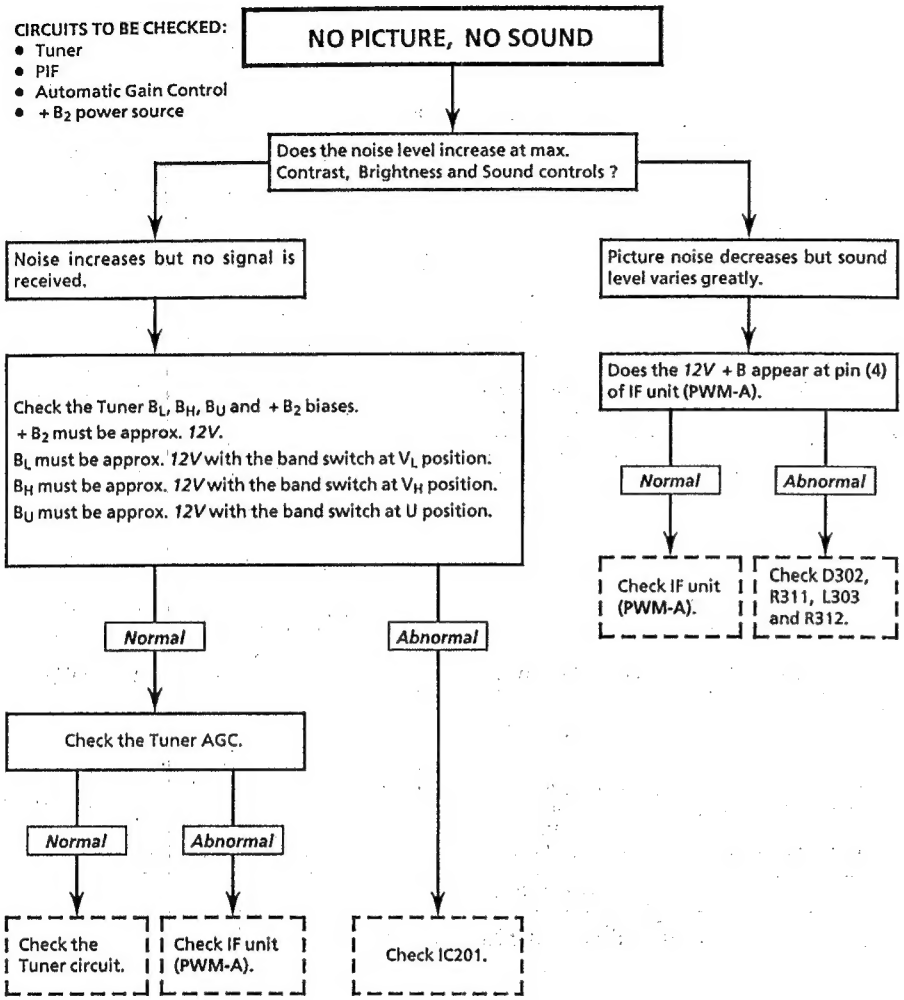
1. Receive "NTSC COLOUR BAR" signal.
2. Using the picture select switch, call the tint mode.
3. Use the Up/Down key to make sure the tint on the screen changes: yellowish at Up(+) and reddish at Down(−).

TROUBLE SHOOTING TABLE

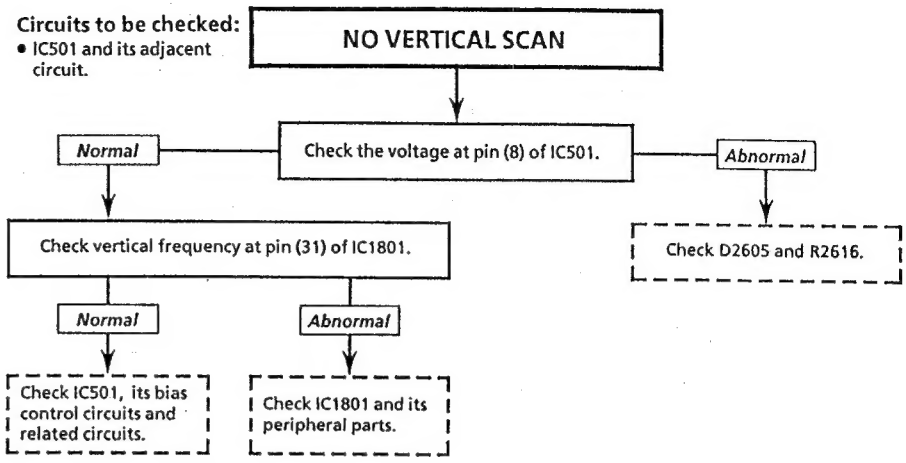
Circuits to be checked:
- Power Circuit
- Protector Circuit

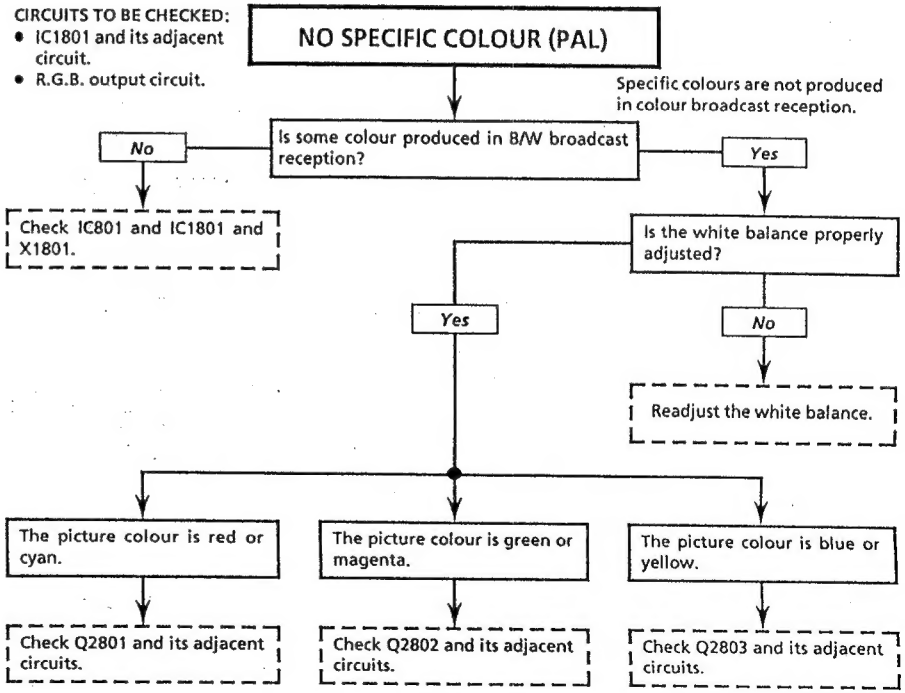


TROUBLE SHOOTING TABLE (Continued)

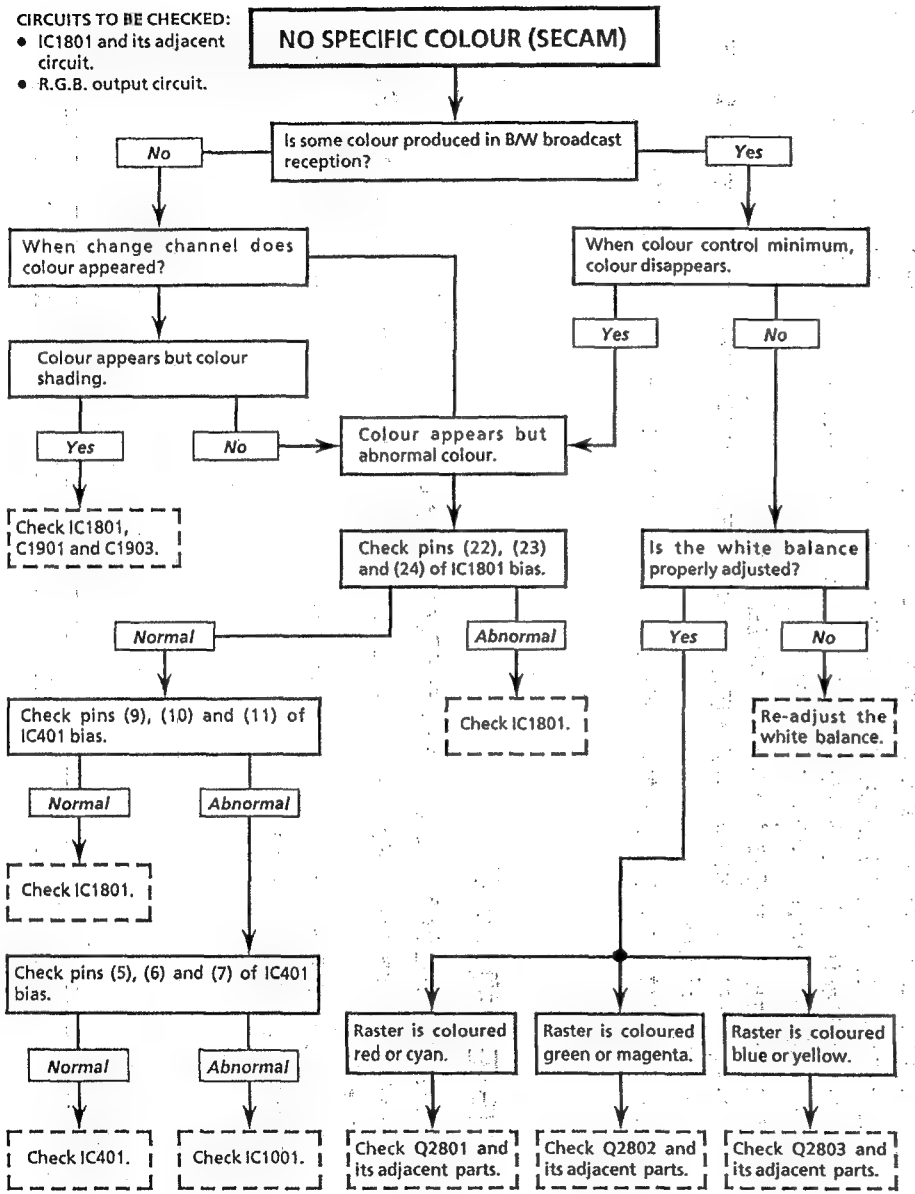

CIRCUITS TO BE CHECKED:
• Tuner
• PIF
• Automatic Gain Control
• +B2 power source
NO PICTURE, NO SOUND
Does the noise level increase at max. Contrast, Brightness and Sound controls ?
Noise increases but no signal is received.
Picture noise decreases but sound level varies greatly.
Check the Tuner BL, BH, BU and +B2 biases.
+B2 must be approx. 12V.
BL must be approx. 12V with the band switch at VL position.
BH must be approx. 12V with the band switch at VH position.
BU must be approx. 12V with the band switch at U position.
Does the 12V + B appear at pin (4) of IF unit (PWM-A).
Normal
Abnormal
Normal
Abnormal
Check the Tuner AGC.
Check IF unit (PWM-A).
Check D302, R311, L303 and R312.
Normal
Abnormal
Normal
Abnormal
Check the Tuner circuit.
Check IF unit (PWM-A).
Check IC201.

TROUBLE SHOOTING TABLE (Continued)

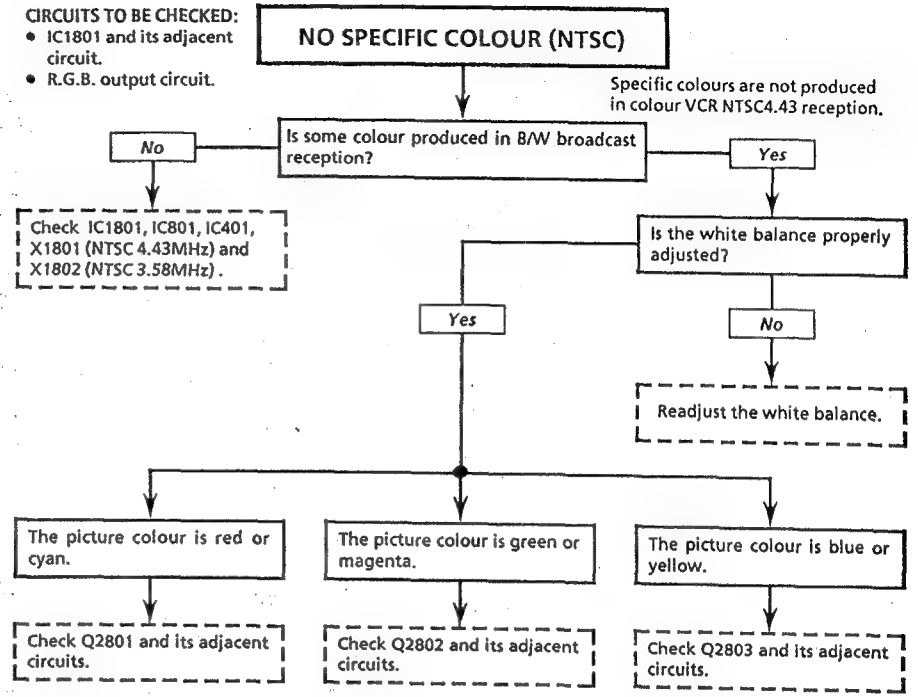

Circuits to be checked:
• IC501 and its adjacent circuit.
NO VERTICAL SCAN
Check the voltage at pin (8) of IC501.
Normal
Abnormal
Check vertical frequency at pin (31) of IC1801.
Check D2605 and R2616.
Normal
Abnormal
Check IC501, its bias control circuits and related circuits.
Check IC1801 and its peripheral parts.


CIRCUITS TO BE CHECKED:
• IC1801 and its adjacent circuit.
• R.G.B. output circuit.
NO SPECIFIC COLOUR (PAL)
Specific colours are not produced in colour broadcast reception.
Is some colour produced in B/W broadcast reception?
No
Yes
Check IC801 and IC1801 and X1801.
Is the white balance properly adjusted?
Yes
No
Readjust the white balance.
The picture colour is red or cyan.
The picture colour is green or magenta.
The picture colour is blue or yellow.
Check Q2801 and its adjacent circuits.
Check Q2802 and its adjacent circuits.
Check Q2803 and its adjacent circuits.

TROUBLE SHOOTING TABLE (Continued)



TROUBLE SHOOTING TABLE (Continued)


CIRCUITS TO BE CHECKED:
• IC1801 and its adjacent circuit.
• R.G.B. output circuit.
NO SPECIFIC COLOUR (NTSC)
Specific colours are not produced in colour VCR NTSC4.43 reception.
Is some colour produced in B/W broadcast reception?
No
Yes
Check IC1801, IC801, IC401, X1801 (NTSC 4.43MHz) and X1802 (NTSC 3.58MHz).
Is the white balance properly adjusted?
Yes
No
Readjust the white balance.
The picture colour is red or cyan.
The picture colour is green or magenta.
The picture colour is blue or yellow.
Check Q2801 and its adjacent circuits.
Check Q2802 and its adjacent circuits.
Check Q2803 and its adjacent circuits.

维修注意要点

本电视机应只能由够格的维修人员来维护和修理。

高电压系统和显象管的维修

当维修高电压系统时，在显象管金属部分和第2阳极引线之间，用一绝缘(象测试探针等)和一10千欧姆的电阻串联连接，从而除去高电压系统的静电。(交流电源插头应和交流电源断开。)

1.本电视机的显象管使用整体内爆保护。
2.为安全的连续性起见，更换时必须使用相同型号的显象管。
3.不要抓住显象管的颈部来将其提起。
4.只有在防震屏面磨损时，和高电压系统彻底放电之后，才能来操作显象管。

X一射线

本电视机被设计成一些X一射线保持在绝对最小。但是由于故障或在修理时，有可能产生在靠近区域长期暴露于辐射之下的危险，因此，必须遵循下列预防措施。

1.当修理电路时，一定不要使电视机的高电压超过32.0kV(25AN1/29AN1)。(电流为0μA)
2.要使电视机操作正常，必须使电视机在高电压为28.7kV±1.5kV(25AN1)(电流为1.4mA)/29.6kV±1.5kV(29AN1)(电流为1.5mA)的情况下工作。
本电视机在出厂之前已被调整为上述的高电压。
在进行修理之后，可能会产生高电压波动的结果。因此在修理结束时，千万不要忘记检查一下高电压是否波动。
3.不要使用没经许可类型和商标的显象管来代替，这样会产生超过标准的X一射线辐射。

在归还电视机之前

在将电视机归还给用户之前，请进行下列的安全检查。

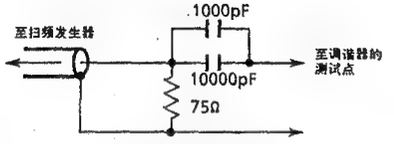
1.检查机底板和电视机其它金属部件之间的全部导线的包皮，确认导线没有折叠、没有和其它金属部件短接。
2.检查所有防护装置，象非金属的控制旋钮、绝缘青壳纸、机壳后盖、调整器和门盖或防护屏、隔离电阻一电容网、机械隔离器等。

调谐器IF(中频)线圈

该调谐器出厂前已作预调(无重新调试之必要)。

1.保持电视机于无信号接收状态。设V_T电压于V_H频带的11V。

2.用75Ω直流截断探针电路，将扫频发生器输出端连接于调谐器的测试点。



75Ω直流截断探针电路连接图

注意：扫频发生器的接地线必须接地于测试点附近。

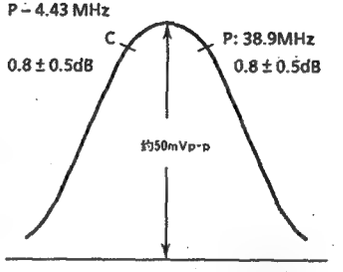
3.扫频输出电平：80dB。

4.连接响应引线(示波器的低抗阻探针)于调谐器的IF(中频装置)输出端。

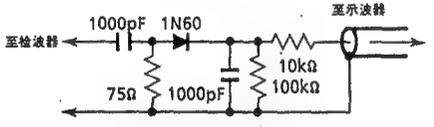
5.RF AGC(射频自动增益控制)：0V

6.调节调谐器中频线圈，以获得下图所示的输出波形。

注意：调节调谐器中频线圈时，应保持其于盖壳盖罩状态下进行。



将"P"及"C"两点调至相同的电平程度



低抗阻探针(带检波器)电路连接图

VCO自激频率的调试：T2003

1.保持电视机于无信号接收状态。

2.短接TP2002与接地。用万能表测量TP2001的电压，记录其读数。

注意：万能表电压值测定范围应定于mV量级。

3.连接扫频发生器输出端于调谐器中频装置输出端。

- 频率：38.9MHz(载波)±5kHz
- 扫频输出电平：80～98dBμV

注意：该项调试进行之前，应先激励IC2001两分钟以上。

4.拆去TP2002和接地间的短接线。调节T2003，使万能表所测电压值达至与步骤2所记录的读数相同的读数。

- 精度：步骤2读数±10mV
  (3.2kHz/mV)

此时，观察示波器屏幕上显示的TP201的输出波形(检波输出)，确认其输出约为DC 3V。

- 范围：DC 1V/段

注意：调试时，检查示波器屏幕显示的输出波形有无噪声和拍频现象。任何噪声和拍频现象均意为调试的不合格。

RF AGC(射频自动增益控制)接通控制：R219

1.设电视机于甚高频VHF高域频带(E10以上的频道)，接收PAL制式彩条信号。

- 场强度：57dB±1dBμV(端接75Ω电阻)

注意：没使用50/75抗阻换能器时，调50Ω场强计读数于55～56dB为宜，使用50/75抗阻换能器时，应考虑因抗阻的损失。

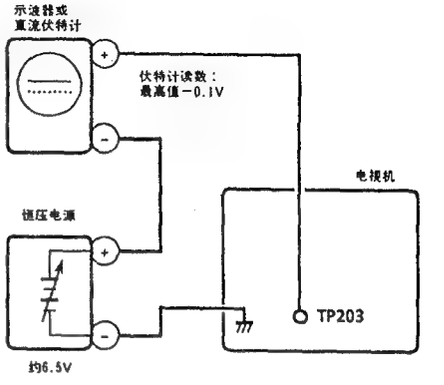
2.连接示波器或直流伏特计于TP203。

3.旋转R219，使伏特计读数达至最高。

4.反方向缓慢旋转R219，让伏特计读数为最高值－0.1V。

5.将信号电平调至63～67dBμV，并确认其信号输出不带噪声。

6.然后将信号电平调至90～95dBμV，并确认其信号输出波形不带交叉调制拍频。



AFT(自动微调)线圈：T2002

1.设电视机于甚高频VHF高域频带(E10以上的频道)，接收PAL制式彩条信号。

- 信号强度范围：55～80dB

2.连接示波器于TP201。

- 电压范围：0.5V/段
- 扫频时间：20微秒/段
- 同步动作：水平同步

3.将SSG(标准信号发生器)输出端并联一只1pF电容连接于中频装置的输出端。

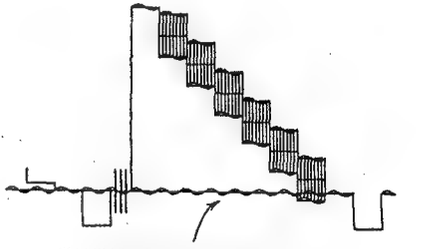
- SSG输出频率：38.9MHz(载波)
  38.9MHz±5kHz
- SSG输出电平：约50dB

4.置预调选择开关于"VHF-H"(甚高频高域频带)之调谐位置，调节"FINE"(微调)键钮(正向微调和反向微调)，使示波器显示的输出波形表面达至无拍频现象之程度。

5.置预调选择开关于"NORMAL"(标准状态)之位置。

6.调节T2002，使示波器显示的输出波形表面达至无拍频现象之程度。

- 调节误差：38.900MHz±25kHz



通过微调消除输出波形的拍频现象

声音的调试

射频副声音的调试：R234

1.接收SECAM制式彩条信号。
- 声音调制：400Hz，60%

2.接示波器于TP1301。
3.调节R234，使400Hz正弦波波形达至0.6Vp-p。
- 调节误差：0.6±0.04Vp-p

副声音的调节：R333

1.接收"PAL制式彩条"信号。
- 音频信号：400Hz，100%调制

2.将VTVM与TP1301连接。
3.确认"SURROUND"(环场音响)的设定于OFF状态。
4.触按音量调节键钮，调音量输出于最大。
5.调节R333，使TP1301的VTVM的读数为6.9Vrms。

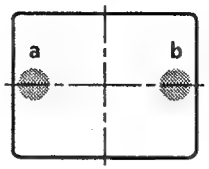
静噪的检查

1.接收PAL制式彩条信号。如无彩条信号，可让电视机接收电视台节目代替之。
2.从最小至最大调节音量，检查扬声器有无声音输出。然后，关断彩条信号的输出。
3.检查消音的设定是否于ON状态。

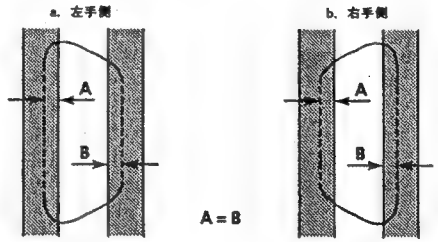
色彩纯度的调试

注意：作此项调试时，必须保持电视机面向东方。

色彩纯度的调试



图A



图B. 顺列"A"的显象管着屏

1.作此项调试前，先用1.1mA电子束电流为电视机预热30分钟以上。
2.接收单一的绿色信号。通过对比度调节，将电子束电流强度调至1.1mA。
3.通过去磁线圈，为CRT(阴极射线管)作完全去磁处理。
- 垂直B_V：$+0.20\times10^{-4}$T(+0.20高斯)
- 水平B_H：0T(0高斯)

4.设色彩纯度调节磁铁于磁场强度为0之位置。

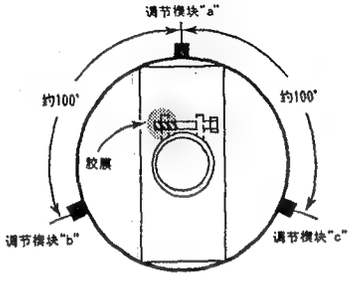
调试：

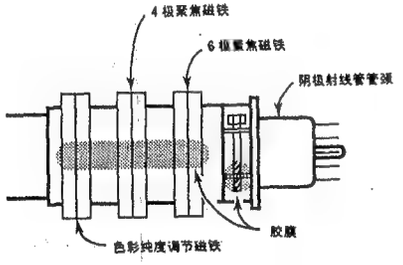
5.用放大镜于电视机屏幕上观察如图A所示的绿色点("a"点和"b"点)。调节色彩纯度调节磁铁，使其绿色点的显象管着屏位置(顺序"A")达规定要求。
6.将光栅转角调至为0。(保持电视机面向东方)
7.旋紧偏转线圈的螺丝。
旋转力矩：11kg±2kg
8.观察CRT(阴极射线管)角部，加磁铁片，使绿色点的显象管着屏位置为顺列"A"。

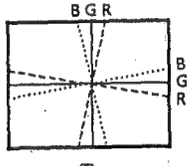
聚焦度的调试

注意：作此项调试时，必须保持电视机面向东方。

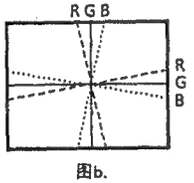
聚焦度的调试



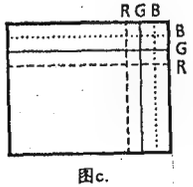




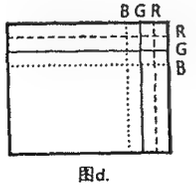
图a.



图b.



图c.



图d.

此项调试必须于色彩纯度调试之后进行。

1. 接收棋盘格测试图信号。
2. 设亮度调节和对比度调节于最大位置。

静聚焦度的调试：

3. 调节4极聚焦磁铁的张开程度以及其转角，以会聚红色线条和蓝色线条。
4. 调节6极聚焦磁铁的张开程度以及其转角，以会聚红色线条，蓝色线条和绿色线条。

动聚焦度的调试：

5. CRT屏幕边缘的动聚焦度(三彩色色场的会聚)的调试按下述要求进行。

按图a.要求的会聚调试：

插入调节楔块"a"于偏转线圈和CRT之间，并向上倾斜调节偏转线圈，以按图a.所示要求矫正不良会聚。

按图b.要求的会聚调试：

插入调节楔块"b"和"c"于偏转线圈和CRT之间，并倾斜调节偏转线圈，以按图b.所示要求矫正不良会聚。

按图c.要求的会聚调试：

深插调节楔块"c"于偏转线圈和CRT之间，并向右倾斜调节偏转线圈，以按图c.所示要求矫正不良会聚。

按图d.要求的会聚调试：

深插调节楔块"b"于偏转线圈和CRT之间，并向左倾斜调节偏转线圈，以按图d.所示要求矫正不良会聚。

6. 完成以上调试后，用透明胶带粘固三只调节楔块于CRT。
7. 然后用胶膜封固偏转线圈调节螺丝，调节磁铁装置(由纯度调节磁铁、4极聚焦磁铁和6极聚焦磁铁构成)以及调节磁铁装置固定螺丝。

该项调试完成后，让电视机接收红色或蓝色信号，并检查接收的单色信号是否掺杂有其他色彩信号。

水平同步和垂直同步电路的调试

垂直线性度的调试：R514

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准图象)键钮。
3. 粗调垂直尺寸调节R510，以获得8%的过扫描。
4. 调节R514，以获得最佳垂直线性度。
   最佳垂直线性度获得由上下两半圆形图案的对称而判定。

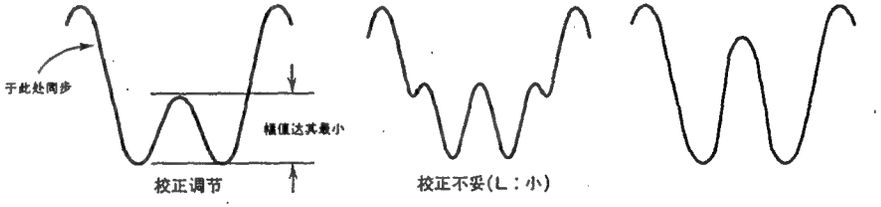
垂直中心和垂直尺寸的调试

- S501：垂直中心
- R510：垂直尺寸

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准图象)键钮。
3. 旋转垂直中心调节S501，使屏幕的画面中心与CRT的几何中心对齐。S501是分档旋转式开关。左右旋转之，寻找其最佳位置。
4. 旋转垂直尺寸调节R510，以获得8%的过扫描。

动态"S"曲线校正：L606（29AN1型）

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准画面)键钮。
3. 将示波器探针与L603连接。(其接地引线应接于C2607)。
4. 调节动态"S"曲线校正线圈L606，使校正信号波形同步，并使其幅值达至最小。



水平两侧枕形畸变(29AN1型)，水平中心和水平尺寸的调试

- R644：水平两侧枕形畸变(29AN1型)
- R602：水平中心
- R632(29AN1)：水平尺寸
- L606(25AN1)：水平尺寸

1. 接收单象管图案信号。粗调水平尺寸调节，以获得8%的过扫描。(29AN1型)
2. 接收棋盘格测试图信号。
3. 触按遥控器上"N"(标准图象)键钮。
4. 旋转水平两侧枕形畸变调节R644 寻找其最佳调节位置：屏幕棋盘格左右两侧边缘的线条拉直。(29AN1型)
5. 接收单象管图案信号。
6. 旋转水平中心调节R602，使屏幕的画面中心和CRT的几何中心对齐。
7. 旋转水平尺寸调节L606(25AN1)/R632(29AN1)，以获得8%的过扫描。
8. 接收棋盘格测试图信号。
9. 重新精调R644，最终设定水平两侧枕形畸变的最佳调节位置。(29AN1型)

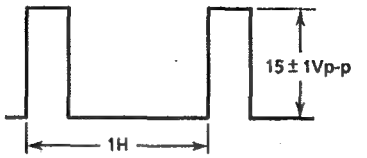
视频电路的调试

CRT截止及副亮度的调试

- R403 ：副亮度控制
- R2816：红色偏转控制
- R2817：绿色偏转控制
- R2818：蓝色偏转控制
- 画面控制(T601的一部分)
- R2811：绿色激励控制
- R2812：蓝色激励控制

注意：作此项调试前，先用1100μA的电子束电流为电视机预热30分钟以上。

1. 接收单象管图案信号。
2. 设红色偏转控制于最小位置(0/10)。
   设绿色偏转控制于最小位置(0/10)。
   设蓝色偏转控制于最小位置(0/10)。
   设绿色激励控制于中央位置(5/10)。
   设蓝色激励控制于中央位置(5/10)。
3. 触按遥控器上的"N"(标准图象)键钮。
4. 设对比度控制于最小位置。
5. 设画面控制于最小位置(0/10)。
6. 将示波器与TP2801(红色阴极)连接。
7. 旋转维修开关S401于水平线位置。
8. 调节副亮度控制R403，以获得TP2801处幅值为15±1Vp-p的隐消脉冲波。



9. 拆去示波器和TP2801的连接。
10. 顺时针方向缓慢地旋转画面控制旋钮，使屏幕上微弱地出现红、绿、蓝三色之一的单色水平光栅为止。
11. 精细调节其它二色的偏转控制，使屏幕上的水平光栅变成白色。
12. 反时针方向旋转画面控制旋钮，直至屏幕上的水平光栅完全消失。

白色平衡及底色的调试

- R2811：绿色激励控制
- R2812：蓝色激励控制
- R416 ：副对比度控制

注意：作此项调试前，先用1100μA的电子束电流为电视机预热30分钟以上。

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准图象)键钮。这样，电视机的对比度设定为最大(10/10)，亮度设定为中央(5/10)。
3. 连接电子束安培计(测示范围：3mA)于TP601(－)和TP602(＋)。
4. 调节副对比度控制，以获得约1.4mA(25AN1)或1.5mA(29AN1)的电子束电流(粗调)。
5. 调节绿色激励和蓝色激励控制，以获得9300°K的色温(白色)。
6. 调节对比度控制和亮度控制，使电子束电流强度降至200μA左右。检查屏幕底色，如果其色温不达指定的9300°K，则须从步骤5重新调节之。

副对比度控制的调试：R416

注意：作此项调试前，先用1100μA的电子束电流为电视机预热30分钟以上。

1. 接收单象管图案信号。
2. 触按遥控器上的"N"(标准图象)键钮。这样，电视机的对比度设定为最大(10/10)，亮度设定为中央(5/10)。
3. 连接电子束安培计(测示范围：3mA)于TP601(－)和TP602(＋)。
4. 调节副对比度控制，以获得1.4mA(25AN1)或1.5mA(29AN1)的电子束电流。

注意：对比度控制和亮度控制均设定于最大位置时，电子束安培计所测电子束电流强度应为1.45mA(25AN1)或1.55mA(29AN1)左右。

PAL制式色度信号电路的调试

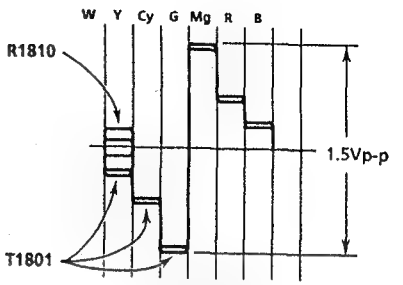
PAL制式色度的调试

- R1810：1H延迟放大控制
- T1801：1H延迟相位控制

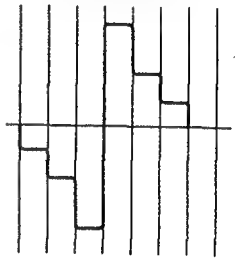
注意：此项调试必须于PIF/AFT/AGC的调试的完成后进行。

1. 接收PAL制式彩条信号。
2. 通过一个电阻矩阵变换电路，将示波器连接TP801和TP802。

电阻矩阵变换电路



图A. 调试前的输出波形

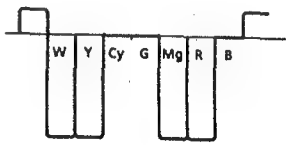


图B. 调试后的输出波形

3. 设维修开关S401于视频信号截断位置，以截断亮度信号的输入。
4. 触按遥控器上的"N"(标准图象)键钮。
5. 调节遥控器上的彩色控制键钮，使色差信号的输出波形达到如图A所示的1.5Vp-p之要求。
6. 调节R1810和T1801，使图A所示的输出波形变为图B所示波形。
7. 将维修开关S401转回至其中心位置。

PAL制式副彩色的调试：R1804

1. 接收PAL制式彩条信号。
2. 触按遥控器上的"N"(标准图象)键钮。
3. 将示波器与TP2801(红色阴极)连接。
   - 电压范围：20V/段
   - 扫频时间：20微秒/段
4. 调节R1804，使白色信号(75%)和红色信号达至如右图所示的同样电平值的要求。

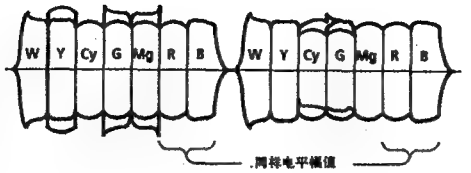


SECAM制式色度信号电路的调试

贝尔滤波器的调试：T1903

1.接收SECAM制式彩条信号。
2.将示波器与T901连接，并按下述要求设定之。
- 电压范围：0.05V/段，交流
- 扫频时间：20微秒/段
- 探针：1/10（30pF，大于10MΩ）

3.调节贝尔滤波器（T1903），使彩条信号中的红色和蓝色成分达至同样的电平幅值。



SECAM制式抑制器的调试：T934

1.接收SECAM制式彩条信号。
2.将示波器与TP902连接，并按下述要求设定之。
- 电压范围：1V/段，直流
  （正确调节垂直位置）
- 扫频时间：20微秒/段

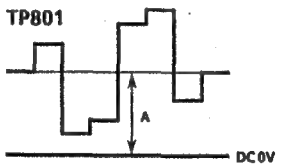
3.调节T1904，以于TP902处获得最大直流电压（约为7.5V）。

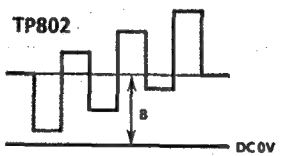
B-Y(T1901)，R-Y(T1902)鉴频器的调试

注意：调试时，分别于TP801和TP802串接0.001μF的电容器，以滤除噪声的干扰影响。

1.接收SECAM制式彩条信号。
2.将示波器（用两个频道）与位于电视机CRT插座装置（印刷电路板-B）上的TP801（R-Y）和TP802（B-Y）连接。
- 电压范围：1V/段，直流
- 扫频时间：10微秒/段

3.设维修开关S401于视频信号截断位置，以截断亮度信号的输入。
4.设对比度控制及亮度控制于其最大位置。
5.调节T1901和T1902，使设彩色控制于最小位置（仅有黑白信号）时彩色饱和度达100%时的直流电平输出达至相同。
6.将维修开关S401转回至其中心位置。

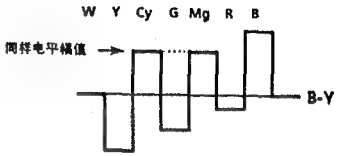




NTSC制式色度信号电路的调试

副色调的调试：R1805

1.接收NTSC制式彩条信号。
2.将示波器与TP802（B-Y）连接。
3.触按遥控器上的"N"（标准图象）键钮。
4.设维修开关S401于视频信号截断位置，以截断亮度信号的输入。
5.调节遥控器上的彩色控制键，使B-Y输出波形达至3Vp-p左右。
6.调节副色调控制R1805，以获得符合要求的输出波形。
7.将维修开关S401转回至其中心位置。



保护电路性能的检查

电子束保护电路

1.接收单象管图案信号。
2.设对比度控制于最大位置。
3.设亮度控制于最大位置。
4.短接Q2801的集电极和发射极。
5.检查这时的保护电路是否被激励，并处于准备状态。

高压保护电路

1.接收单象管图案信号。
2.将偏压器并接于R685。
3.按下述要求，加电压于偏压器，检查高压保护电路的功能。
- 加压20 V时，高压保护电路不动作
- 加压24 V时，高压保护电路动作

诸图象、音响控制键钮功能的检查

对比度控制键钮

1.接收单象管图案信号。
2.设图象控制选择开关于对比度调节之位置。
3.触按上移(＋)/下移(－)键钮，检查画面对比度是否发生变化。

环场音响选择键钮

1.设电视机本机前面控制板上的环场音响开关于"S-WIDE"(广域环场音响)的位置。
2.触按遥控器上环场音响选择开关键钮，检查电视机上环场音响的光电指示器是否点亮。

彩色控制键钮

1.接收NTSC制式彩条信号。
2.设图象控制选择开关于彩色调节之位置。
3.触按上移(＋)/下移(－)键钮，检查画面的彩色是否发生变化。(彩色控制设其最小位置时，图象应完全变为黑白图象)。

频道表示色

检查所有接收频道(1～39)的在屏表示色是否均为绿色。

亮度控制键钮

1.接收单象管图案信号。
2.设图象控制选择开关于亮度调节之位置。
3.触按上移(＋)/下移(－)键钮，检查亮度黑电平是否发生变化。

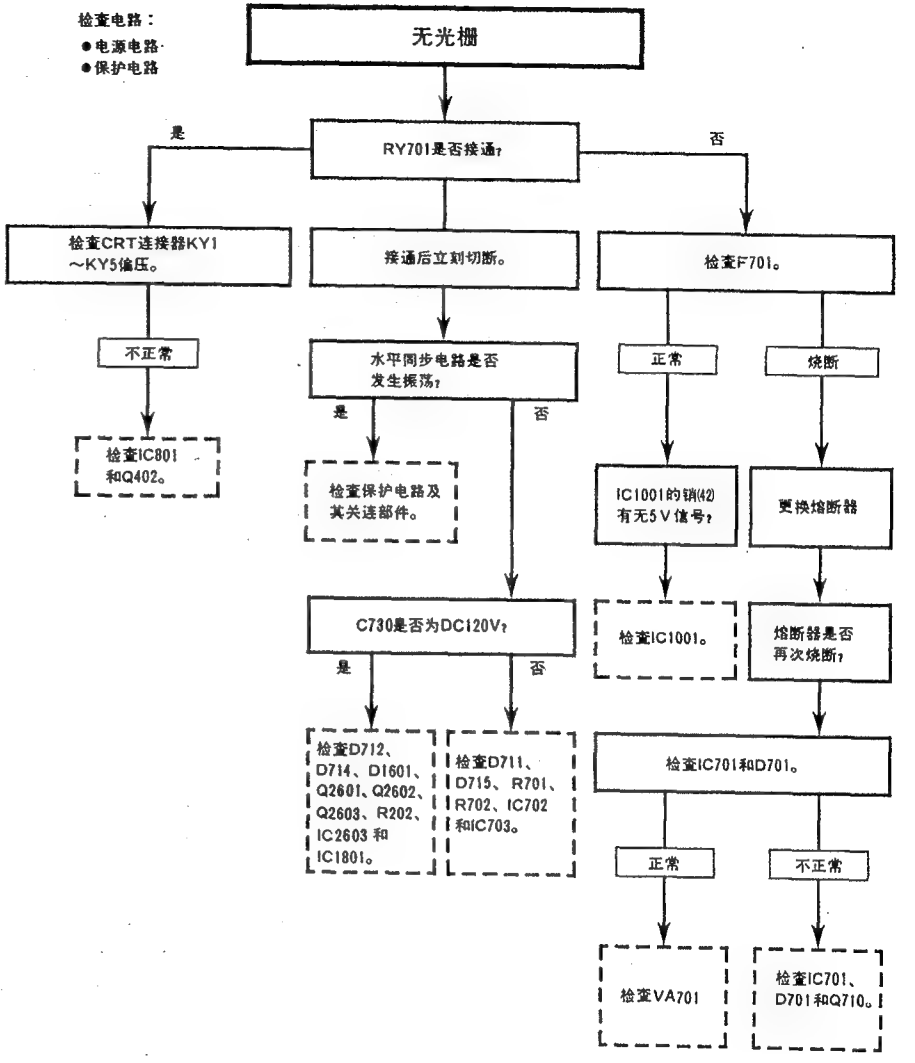
蓝色背景选择开关

设蓝色背景选择开关于开启位置，调电视机于无信号输入的接收频道，检查电视机屏幕是否于数分钟后转为全蓝色表示。然后，设蓝色背景选择开关于关断位置，检查屏幕的全蓝色表示是否随之消失。

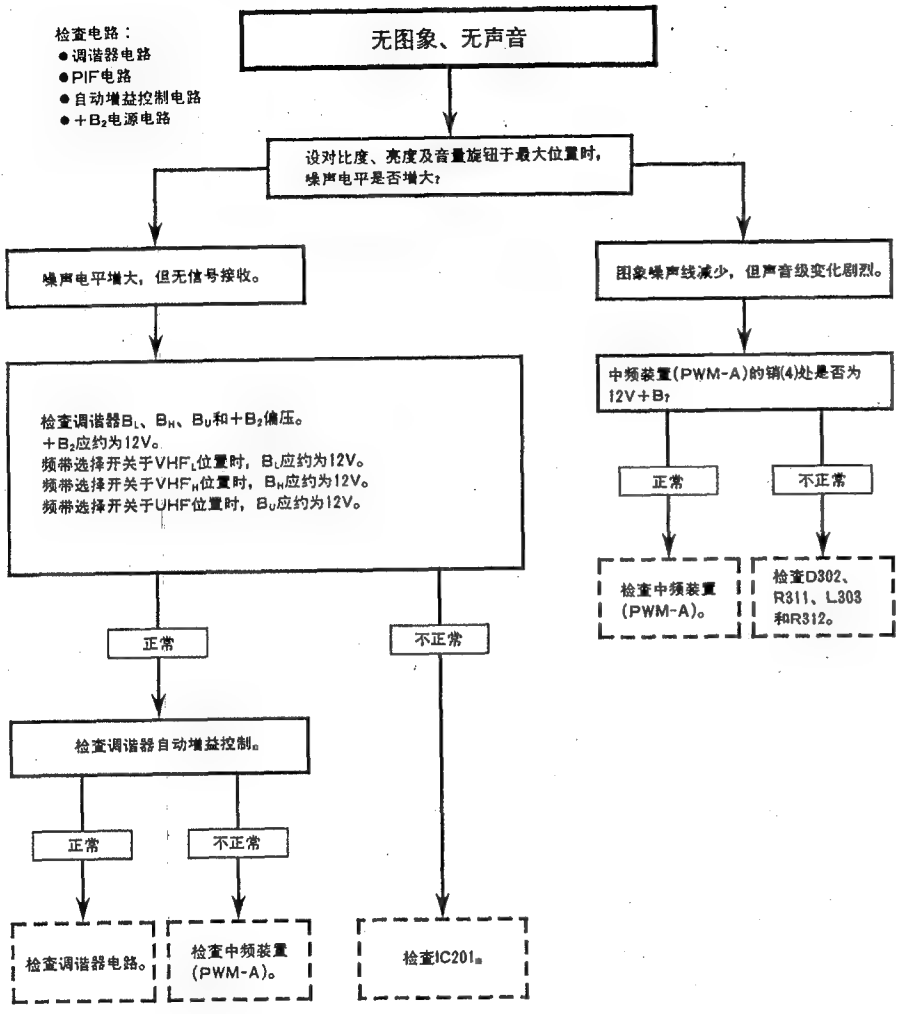
色调控制键钮

1.接收NTSC制式彩条信号。
2.设图象控制选择开关于色调调节之位置。
3.触按上移(＋)/下移(－)键钮，检查画面色调的变化：触按上移(＋)键钮时，画面色彩变黄；触按下移(－)键钮时，画面色彩变红。

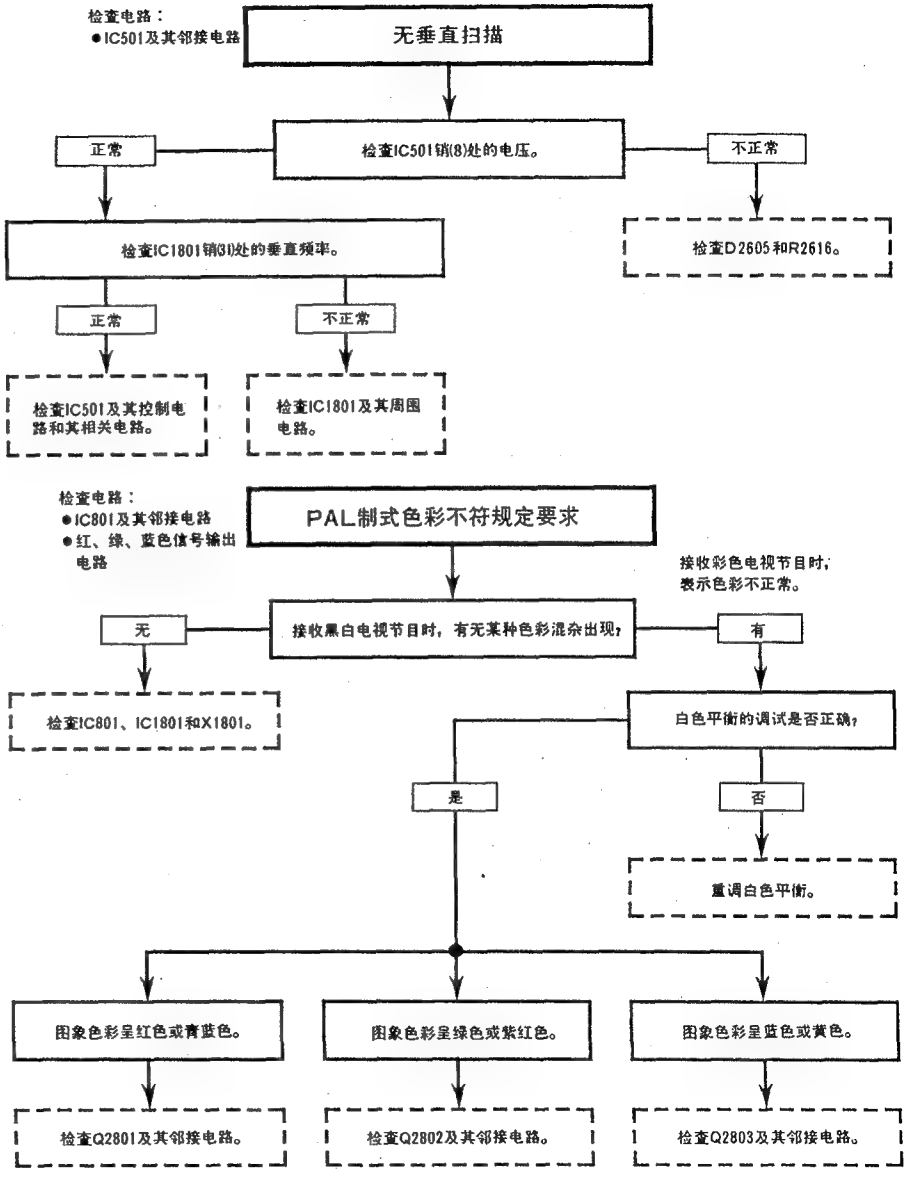
故障检修流程图



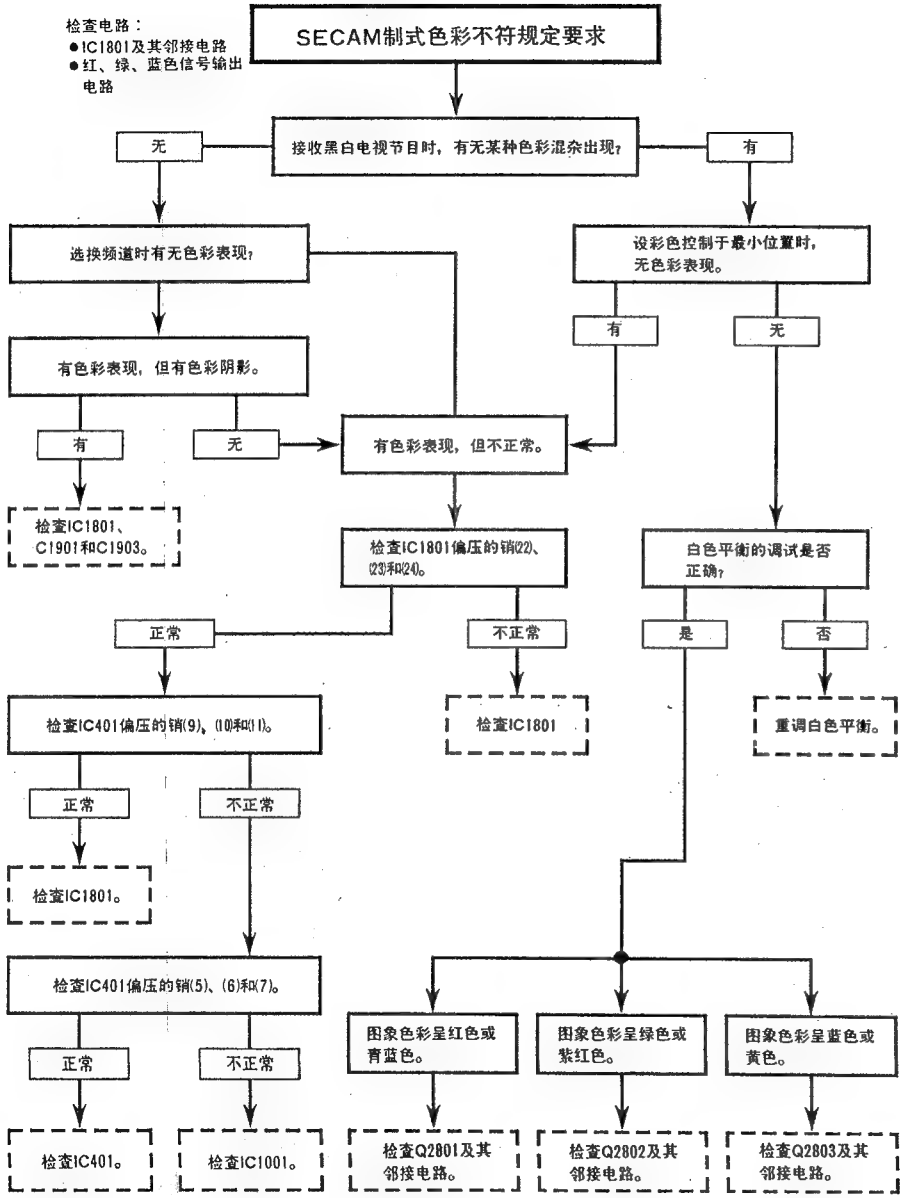
故障检修流程图(接上页)



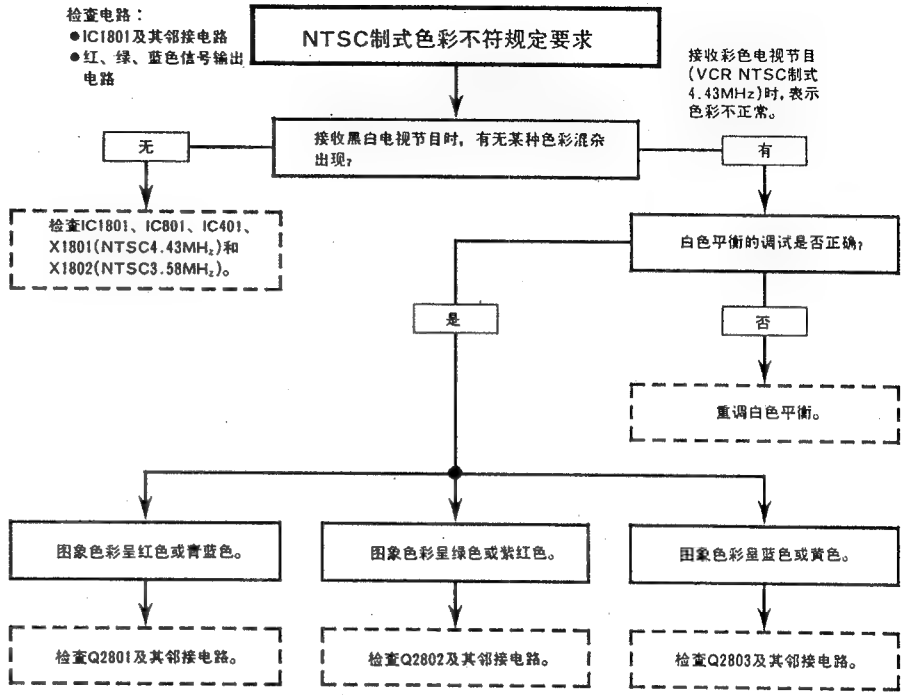
故障检修流程图(接上页)



故障检修流程图(接上页)



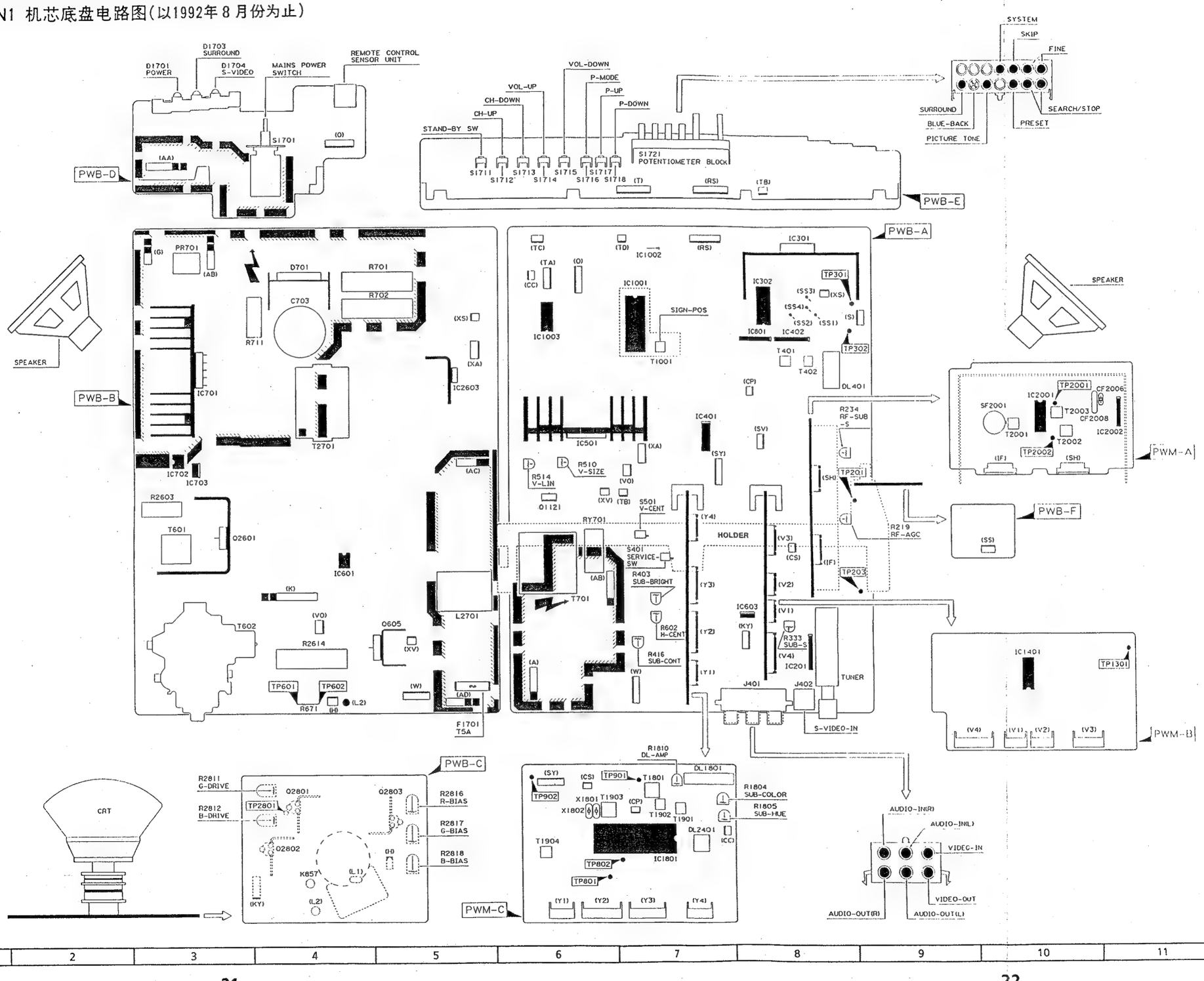
故障检修流程图(接上页)



25AN1	25AN1
29AN1	29AN1

MODEL 25AN1 CHASSIS LAYOUT (Up to August 1992)

型号25AN1 机芯底盘电路图(以1992年8月份为止)



21

22

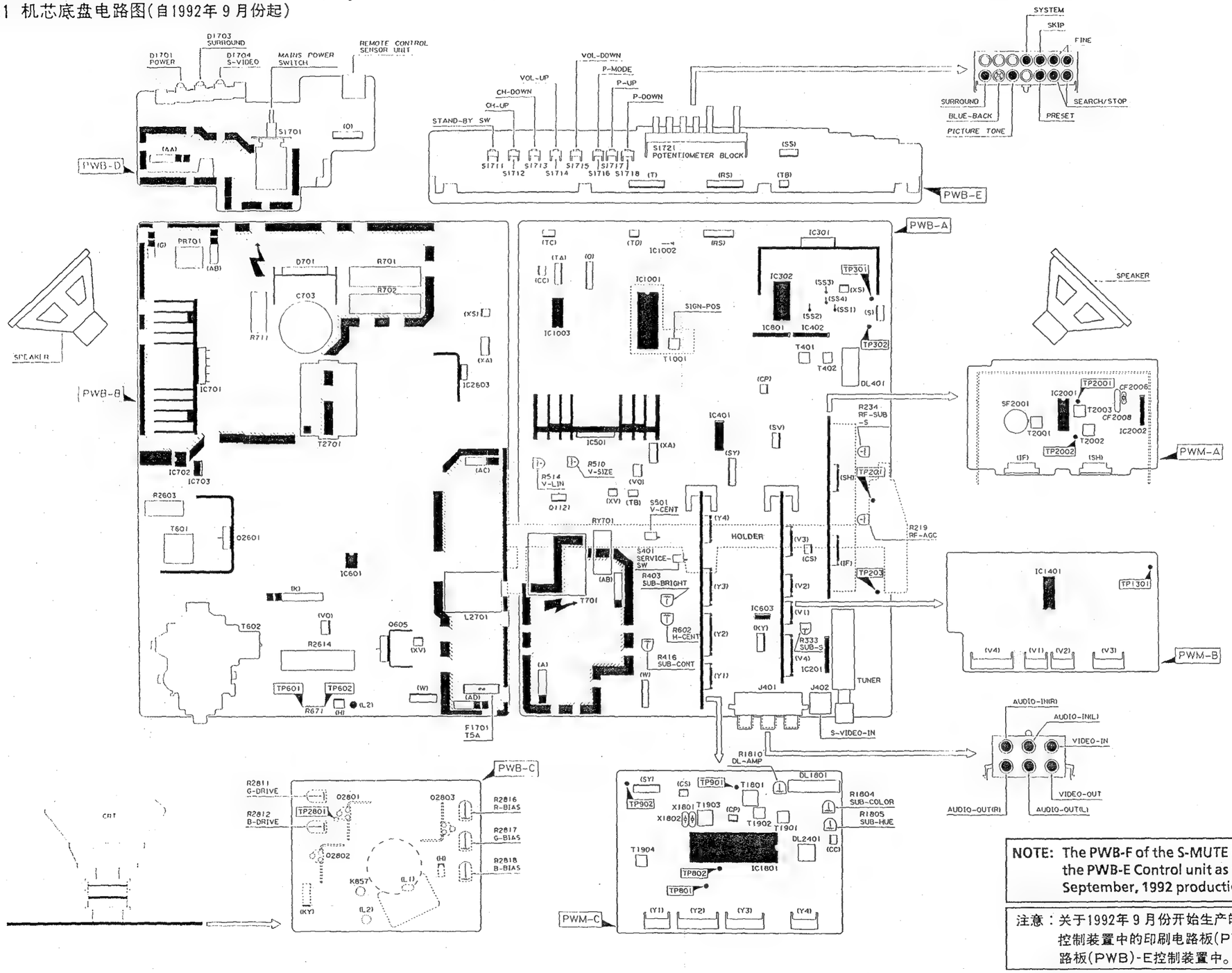
20-2

20-1

25AN1	25AN1
29AN1	29AN1

MODEL 25AN1 CHASSIS LAYOUT (September 1992~)

型号25AN1 机芯底盘电路图(自1992年 9 月份起)



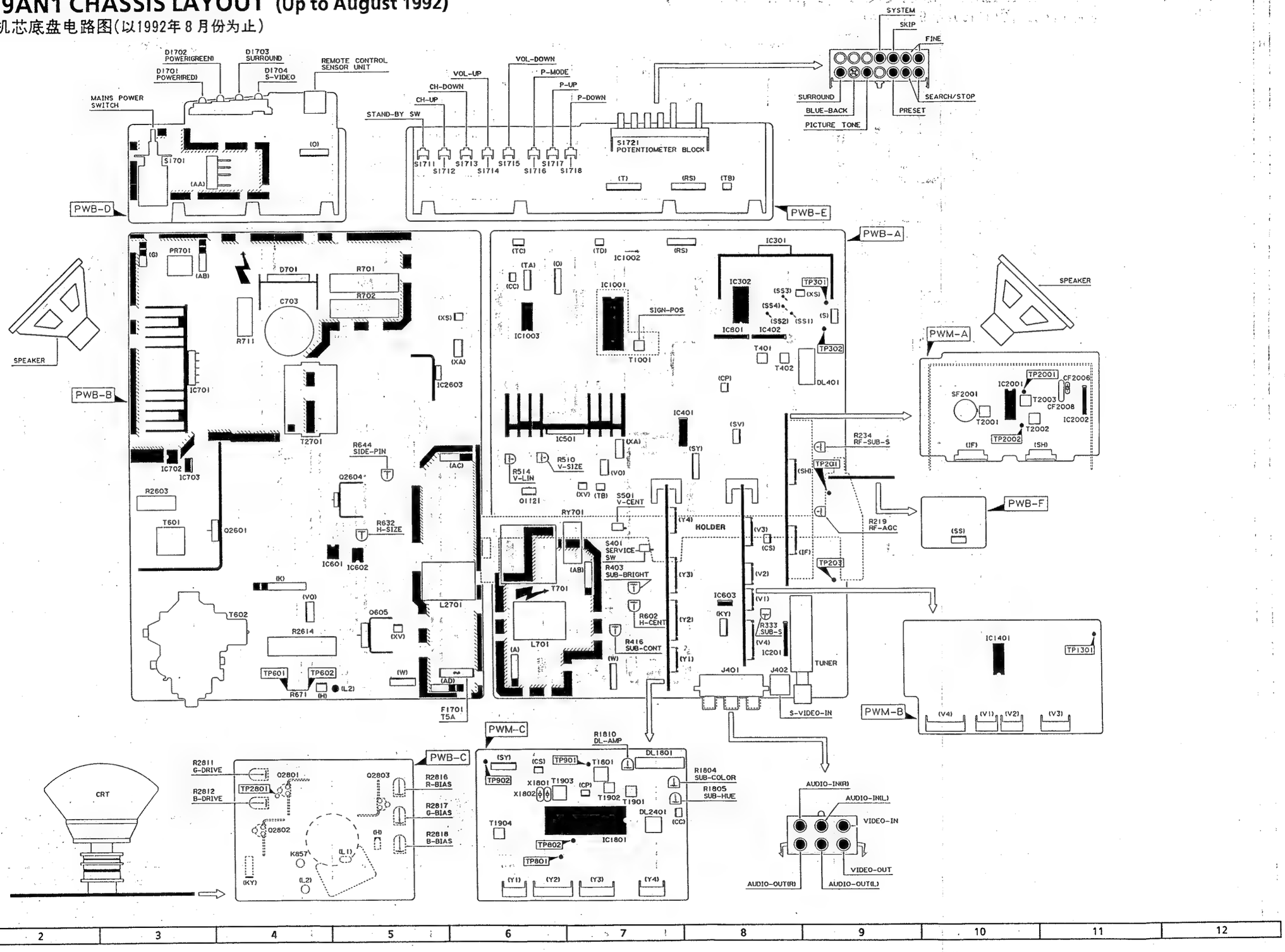
NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

注意：关于1992年 9 月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。

25AN1
29AN1

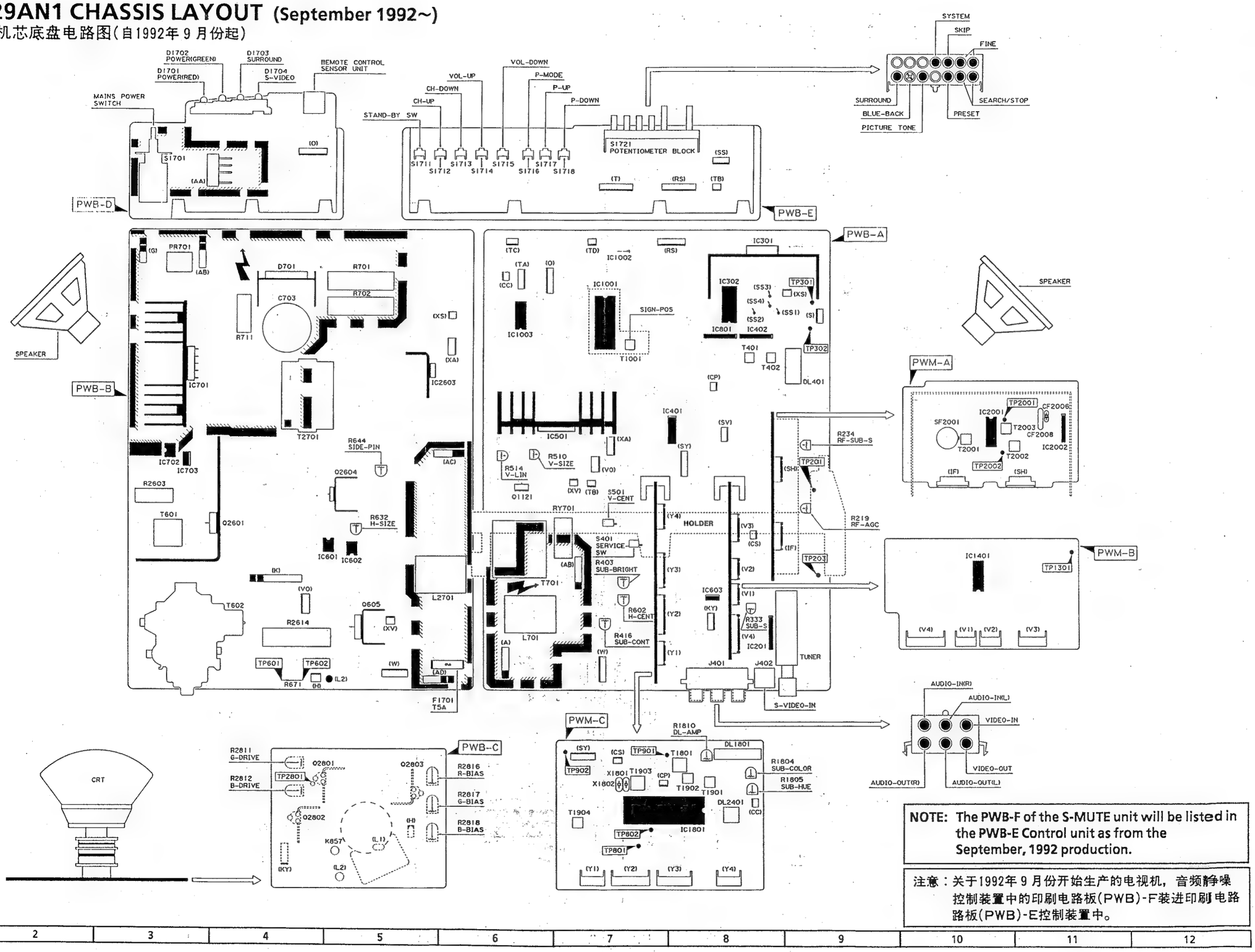
MODEL 29AN1 CHASSIS LAYOUT (Up to August 1992)

型号29AN1 机芯底盘电路图(以1992年8月份为止)



MODEL 29AN1 CHASSIS LAYOUT (September 1992~)

型号29AN1 机芯底盘电路图(自1992年9月份起)



NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

注意：关于1992年9月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路路板(PWB)-E控制装置中。

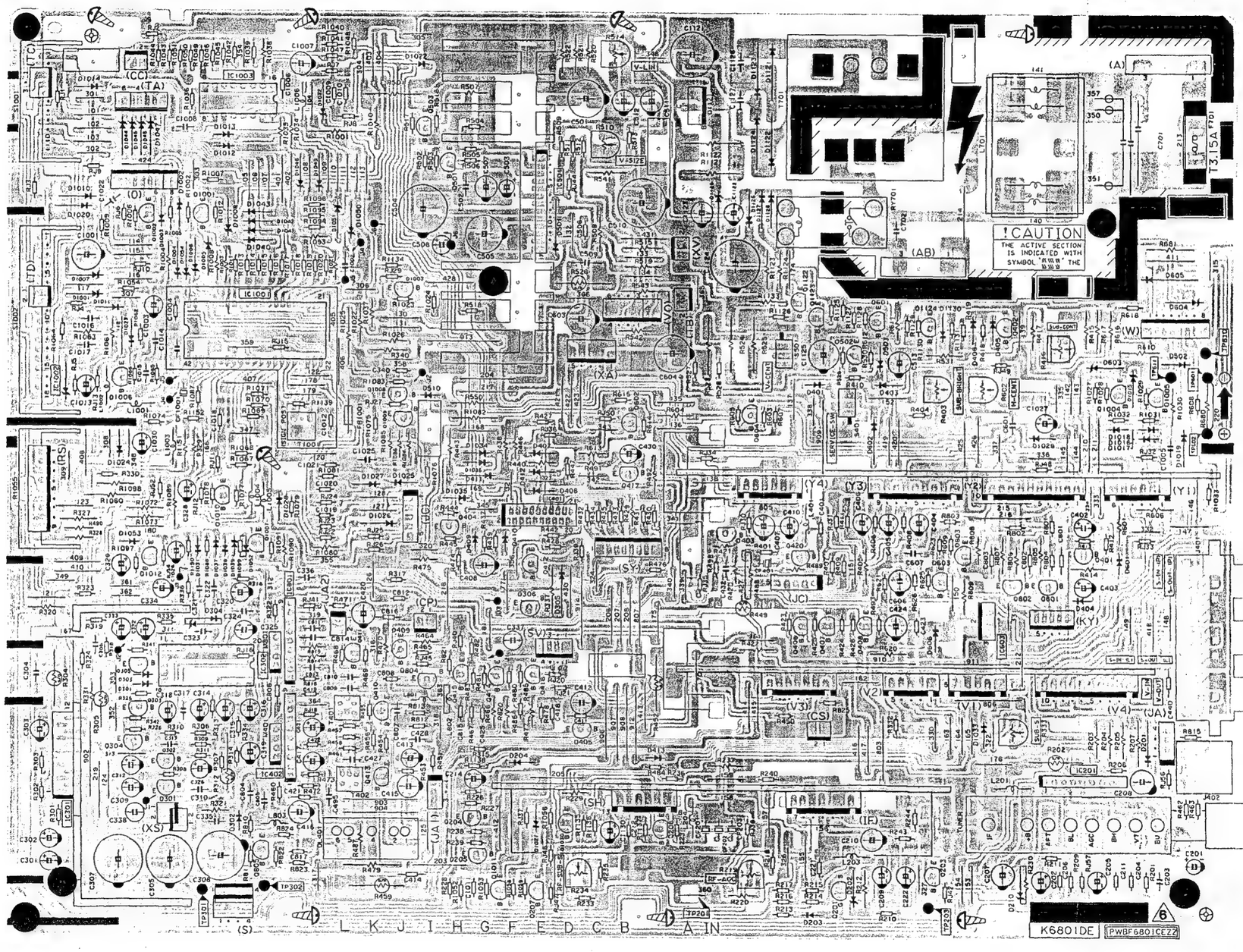
25AN1	25AN1
29AN1	29AN1

PRINTED WIRING BOARD ASSEMBLIES

(All the PWBs here are shown as viewed from their wiring sides)

印刷电路板的组装件

（这里的所有印刷电路都是从导线接头端的角度显示出来。）



PWB-A

29

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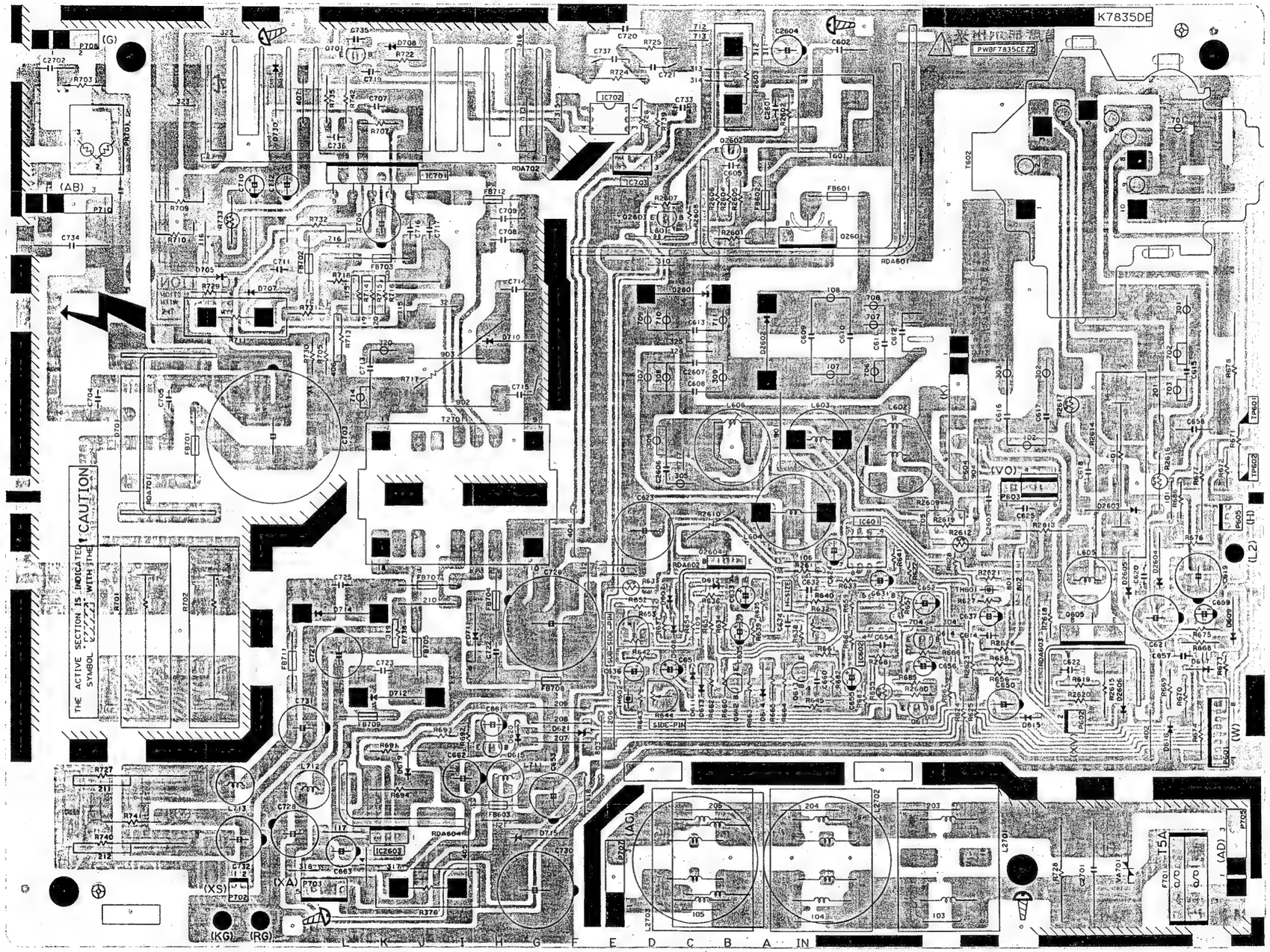
25AN1	25AN1
29AN1	29AN1

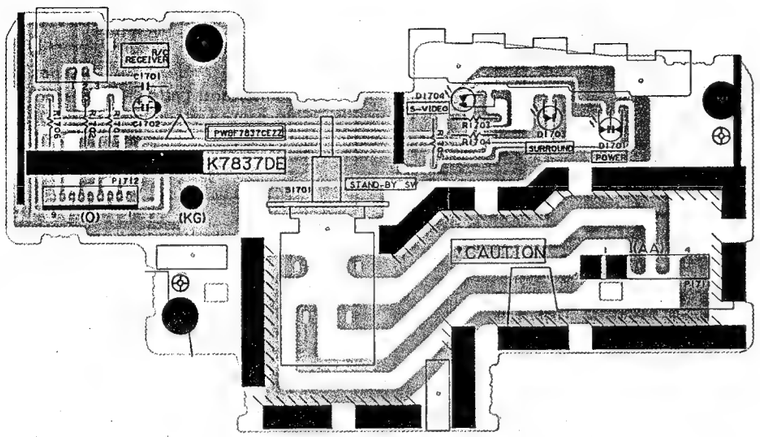


PWB-B

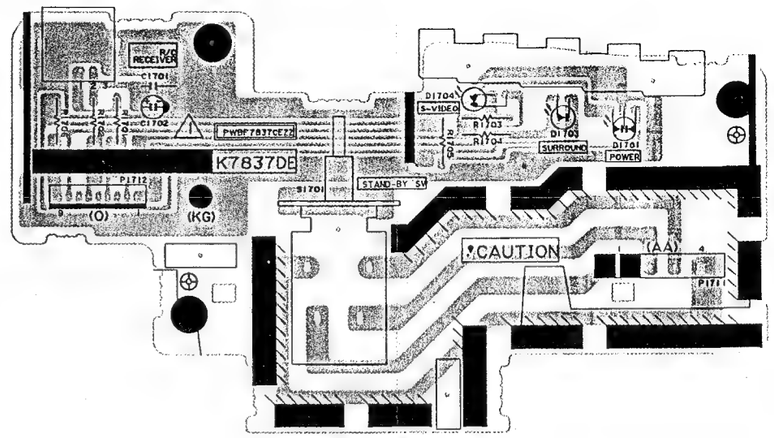
1	2	3	4	5	6	7	8	9	10	11	12

31 32

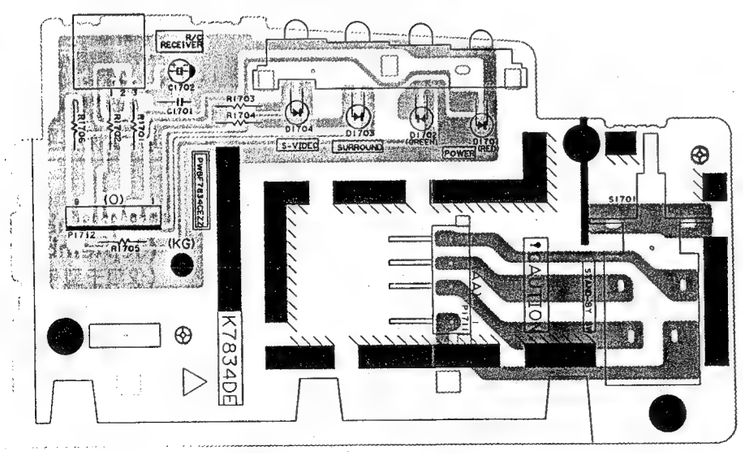
25AN1 29AN1	25AN1 29AN1



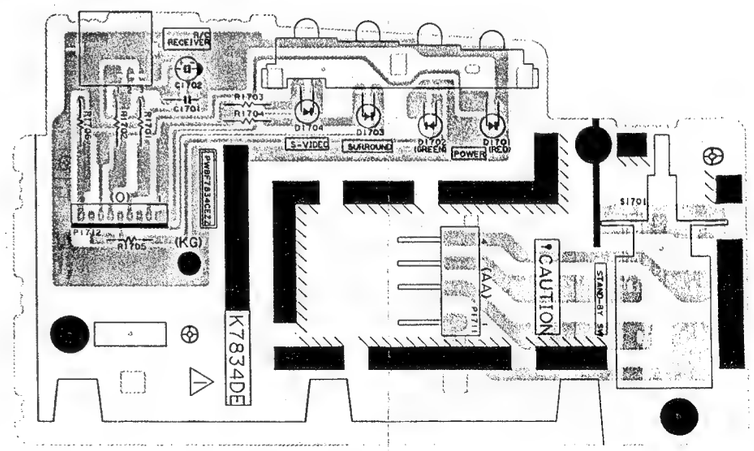
PWB-D (only for 25AN1)
(Up to August 1992)
（仅限于型号25AN1）
（以1992年 8 月份为止）



PWB-D (only for 25AN1)
(September 1992~)
（仅限于型号25AN1）
（自1992年 9 月份起）

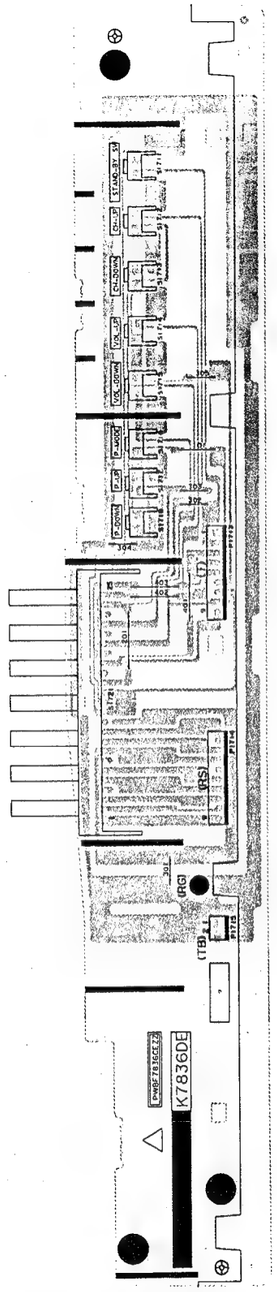


PWB-D (only for 29AN1)
(Up to August 1992)
（仅限于型号29AN1）
（以1992年 8 月份为止）

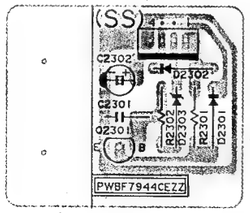


PWB-D (only for 29AN1)
(September 1992~)
（仅限于型号29AN1）
（自1992年 9 月份起）

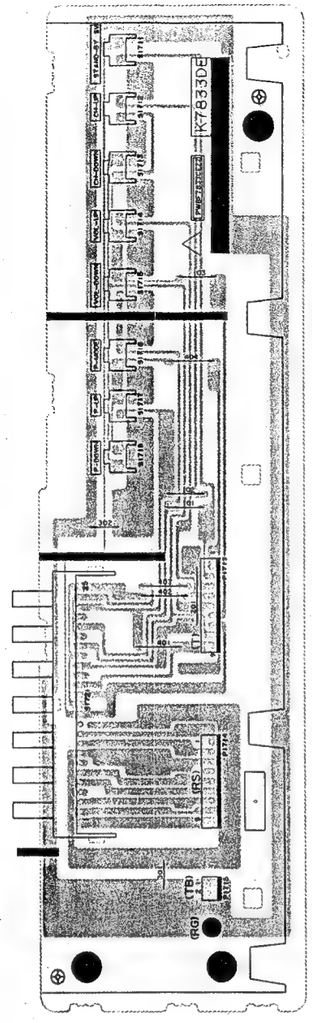
25AN1	25AN1
29AN1	29AN1



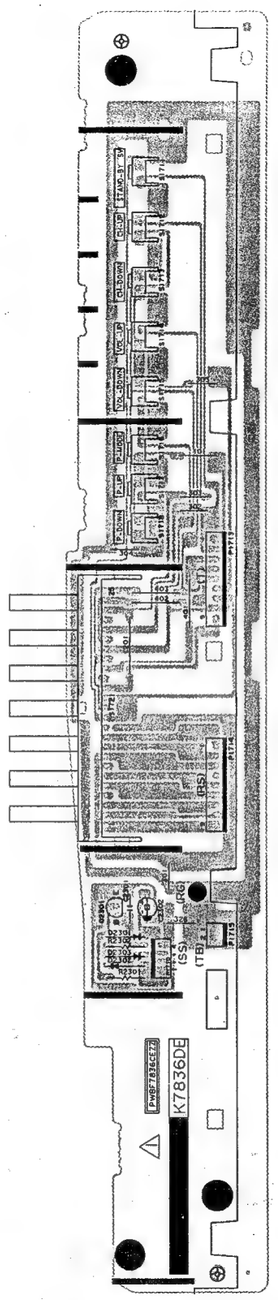
PWB-E (only for 25AN1)
(Up to August 1992)
（仅限于型号25AN1）
（以1992年 8 月份为止）



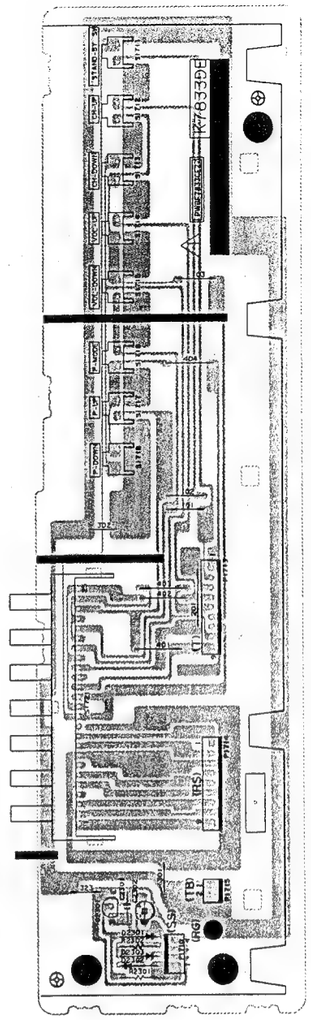
PWB-F
(Up to August 1992)
（以1992年 8 月份为止）



PWB-E (only for 29AN1)
(Up to August 1992)
（仅限于型号29AN1）
（以1992年 8 月份为止）



PWB-E (only for 25AN1)
(September 1992~)
（仅限于型号25AN1）
（自1992年 9 月份起）



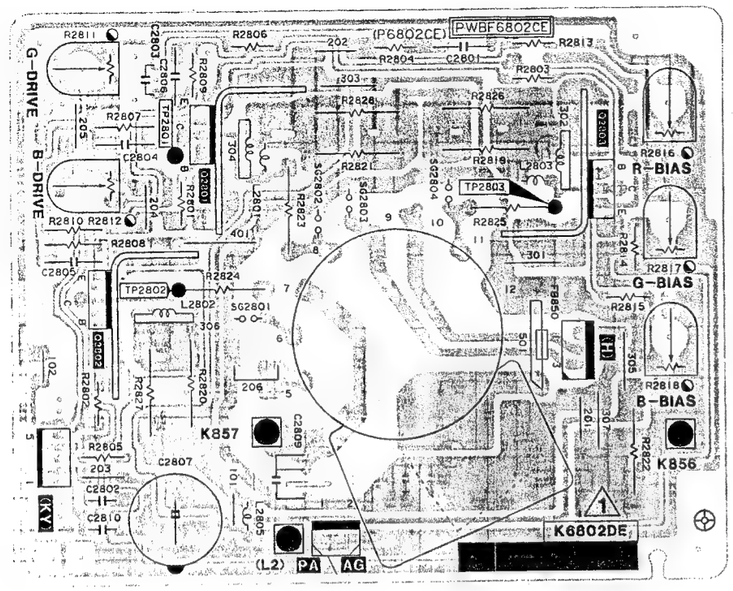
PWB-E (only for 29AN1)
(September 1992~)
（仅限于型号29AN1）
（自1992年 9 月份起）

NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

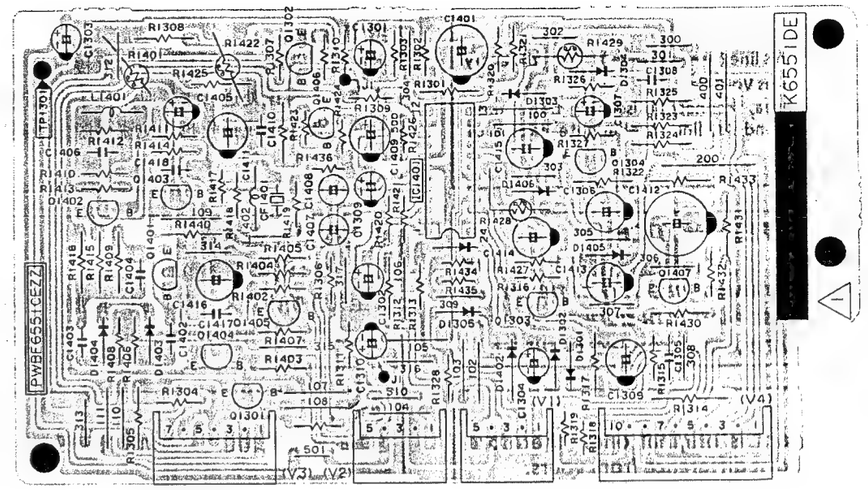
注意：关于1992年 9 月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。

1	2	3	4	5	6	7	8	9	10	11	12

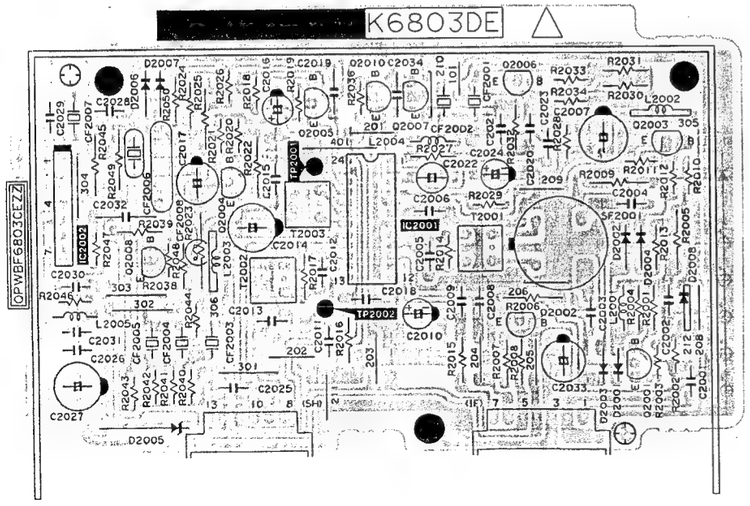
25AN1	25AN1
29AN1	29AN1



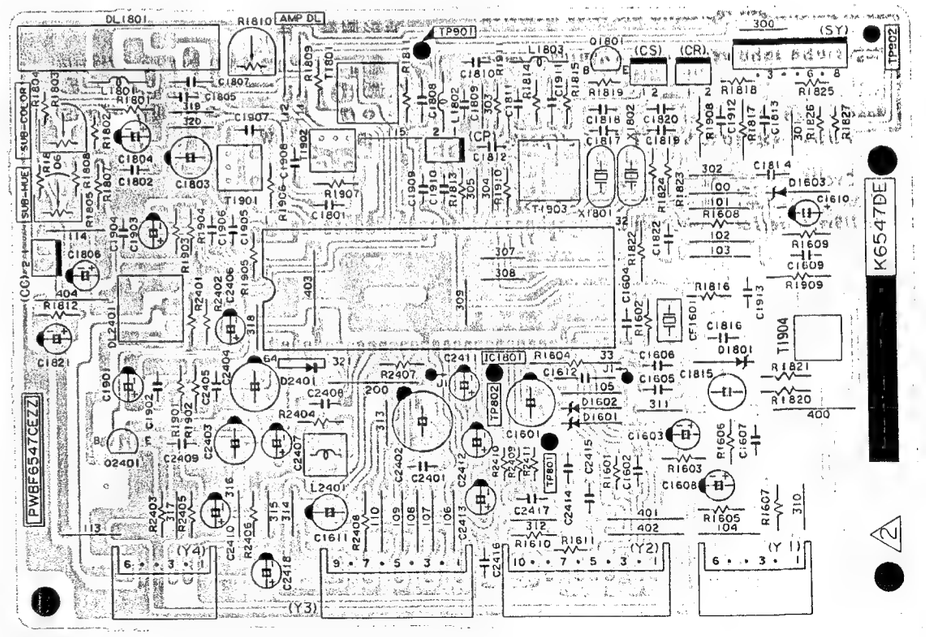
PWB-C



PWM-B



PWM-A



PWM-C

DESCRIPTION OF SCHEMATIC DIAGRAM
电路原理图的说明

SERVICE PRECAUTION:

The area enclosed by this line (——·——) is directly connected with AC Mains Voltage.
When servicing the area, connect an isolating transformer between TV receiver and AC line to eliminate hazard of electric shock.

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH "⚠"(▒▒▒) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFOMANCE OF THE SET.

CAUTION:

This circuit diagram is original one, therefore there may be a slight difference from yours.

维修注意：

被(——·——)线围起的地方直接和交流电源电压相连接。当对该处进行维修时，为了排除遭受电击的危险性，要在电视接收机和交流电源之间连接隔离变压器。

安全使用注意要点：

标有"⚠"(▒▒▒)的部件对于电视机安全的维护有至关重要的意义。为了维护本机的安全和使本机能正常工作，必须使用指定品来更换这些部件。

注意：

这里的电路原理图均为最初设计原图，与您的机器电器原理图可能有不同之处。

NOTES:

Voltage MEasurement Conditions

1. *The voltage without parenthesis represents the value measured with PAL colour signal.*
2. *The voltage in parenthesis represents the value measured with no signal.*
3. *All the voltages were measured by using a high impedance voltmeter.*

电压测量条件：

1. 无括弧的电压值是由PAL制式彩色信号测量的。
2. 在括弧内的电压值是由无信号测量的。
3. 所有各点的电压均是用高阻抗电压表来测量的。

Waveform Measurement Conditions

1. *The colour bar signal applied to the TP201 is 2.0V peak-to-peak.*
2. *The tuner AGC voltage is approximately 4V.*

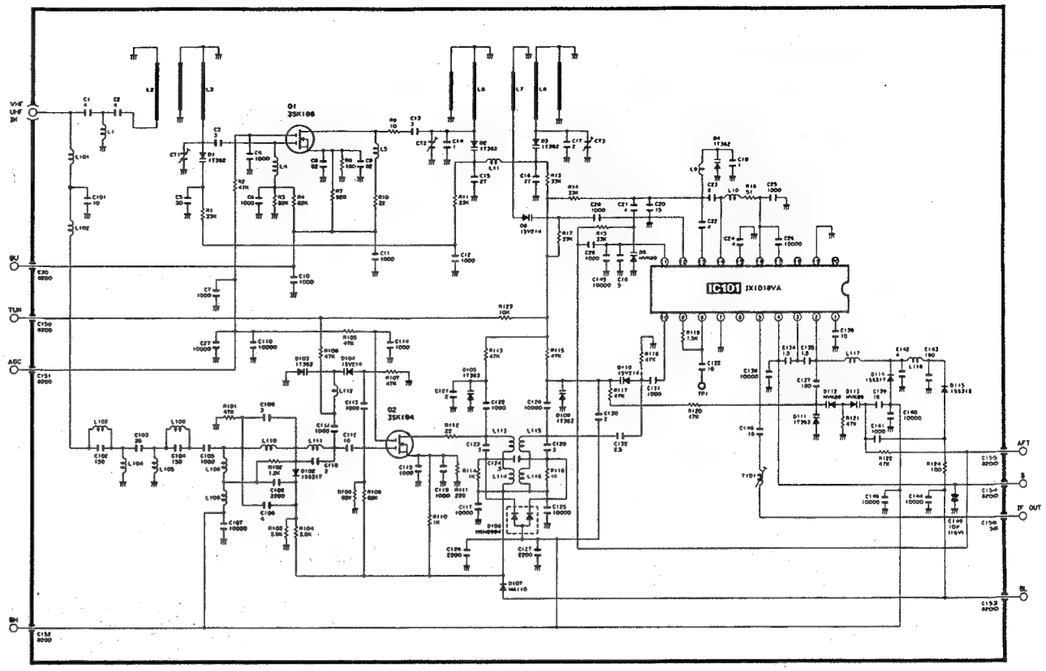
The diodes, whose parts code is not described, are the 1SS119.
All resistors are 1/8W, unless otherwise noted.

波形测量条件：

1. 施加于TP201的色带信号应为2.0V峰间值。
2. 调谐器AGC(自动增益控制)电压约为4V。
除特别说明者外，所有的二极管均为1SS119，另外，所有的电阻也均为⅛W。

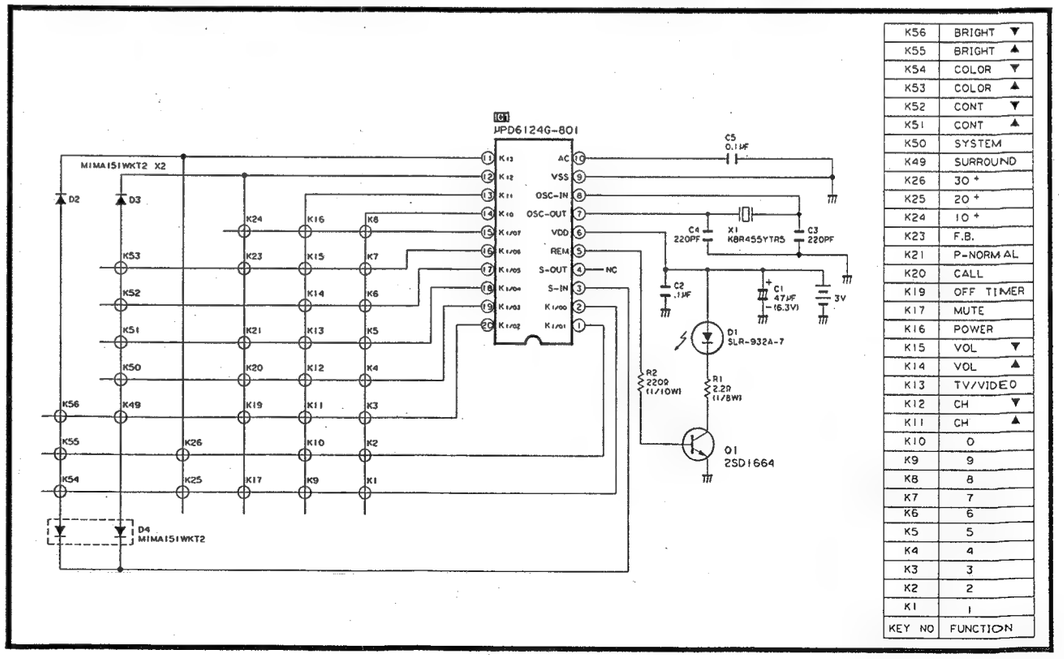
TUNER 调谐器

⚠ VTUVTS56S1///



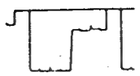
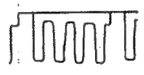
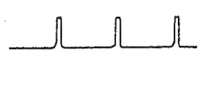
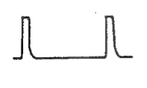
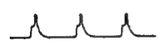
INFRARED REMOTE CONTROL UNIT 红外线遥控器

RRMCG0933CESA

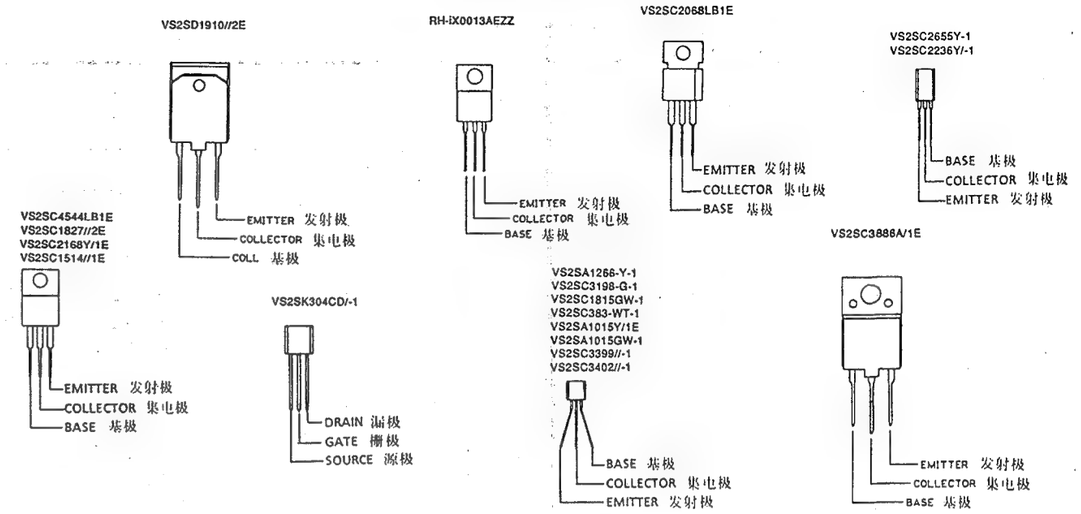


KEY NO	FUNCTION
K56	BRIGHT ▼
K55	BRIGHT ▲
K54	COLOR ▼
K53	COLOR ▲
K52	CONT ▼
K51	CONT ▲
K50	SYSTEM
K49	SURROUND
K26	30 +
K25	20 +
K24	10 +
K23	F.B.
K21	P-NORMAL
K20	CALL
K19	OFF TIMER
K17	MUTE
K16	POWER
K15	VOL ▼
K14	VOL ▲
K13	TV/VIDEO
K12	CH ▼
K11	CH ▲
K10	0
K9	9
K8	8
K7	7
K6	6
K5	5
K4	4
K3	3
K2	2
K1	1

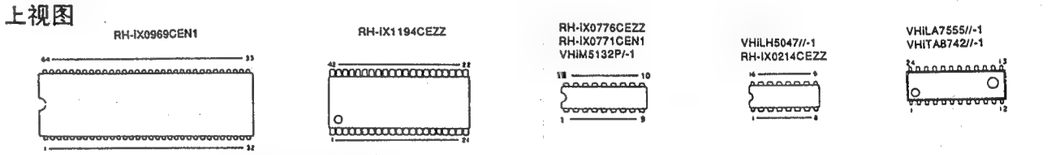
WAVE FORMS
波形图

			
① 2.0 Vp-p (H)	⑦ 0.8 Vp-p (H)	⑬ 0.64 Vp-p (H)	⑲ 90 Vp-p (H)
			
② 2.0 Vp-p (H)	⑧ 58 Vp-p (H)	⑭ 2.3 Vp-p (H)	⑳ 90 Vp-p (H)
③ 8.4 Vp-p (H)	⑨ 1080 Vp-p (H)	⑮ 0.34 Vp-p (H)	㉑ 250 Vp-p AC110V (500 Vp-p AC220V)
			
④ 5.0 Vp-p (V)	⑩ 13.5 Vp-p (H)	⑯ 0.88 Vp-p (H)	
			
⑤ 4.2 Vp-p (V)	⑪ 9.6 Vp-p (H)	⑰ 0.7 Vp-p (H)	
⑥ 56 Vp-p (V)	⑫ 0.8 Vp-p (H)	⑱ 96 Vp-p (H)	

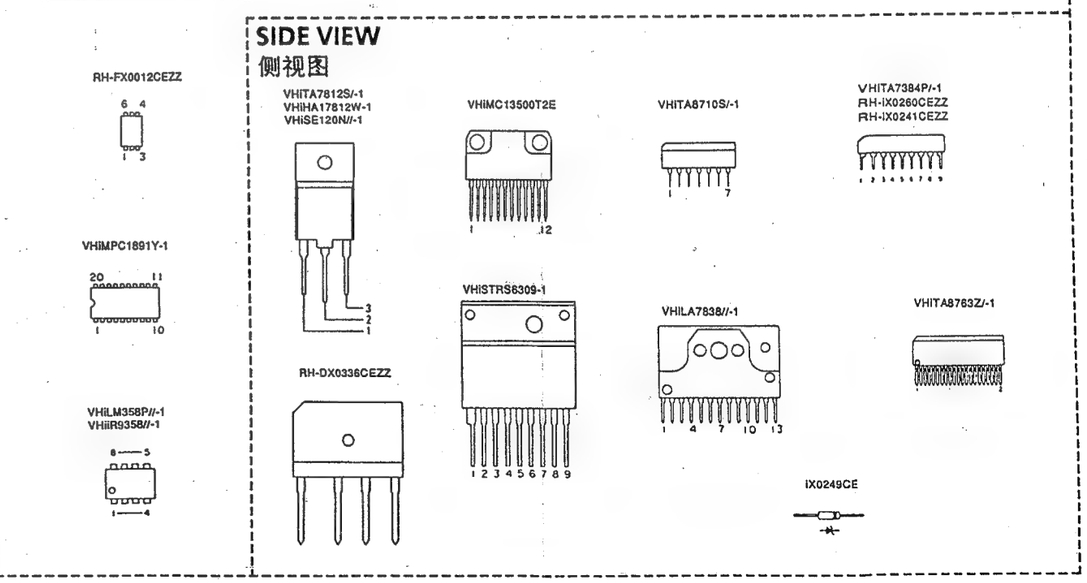
SOLID STATEDEVICE BASE DIAGRAMS
固态部件基座图



TOP VIEW
上视图



SIDE VIEW
侧视图



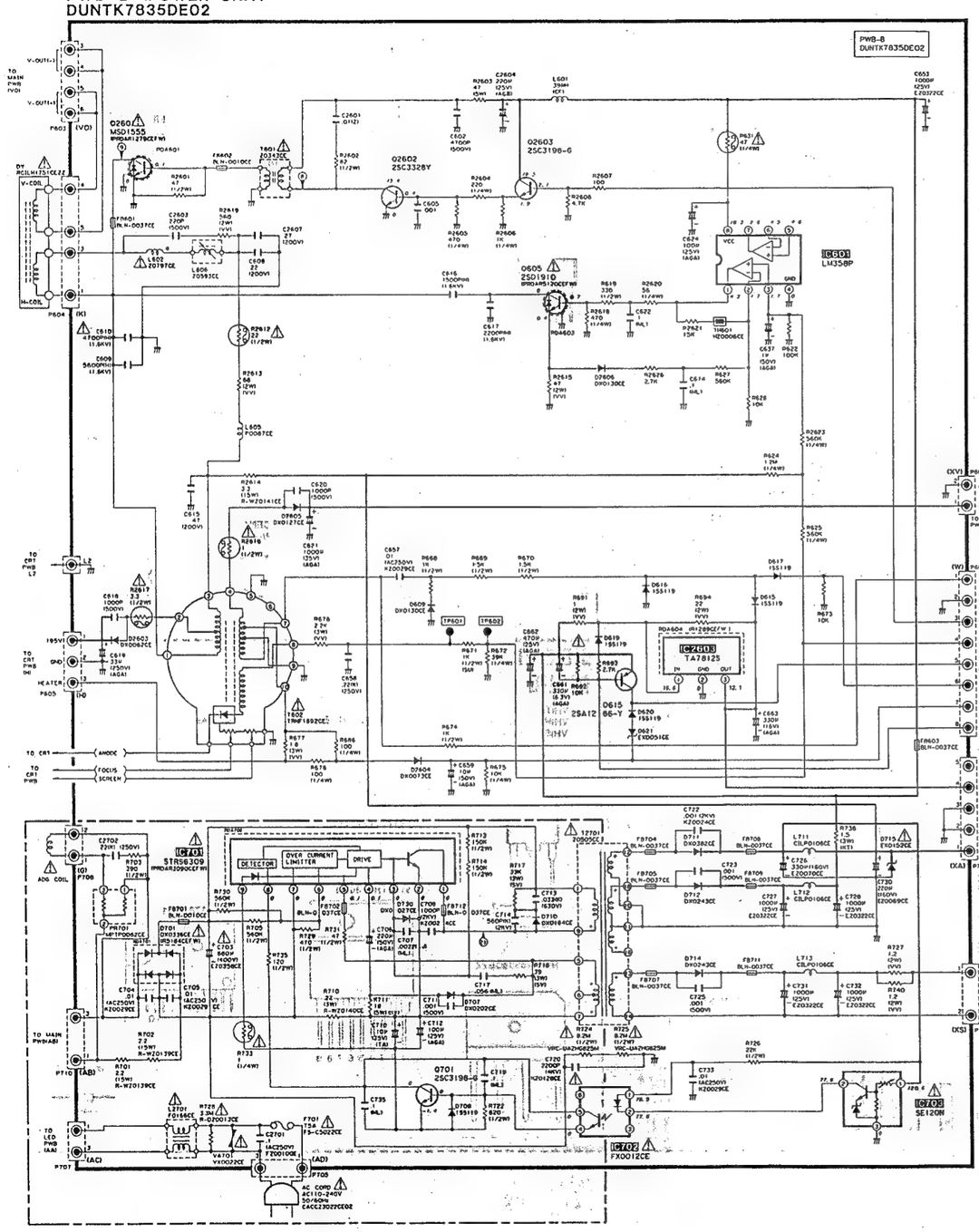
MODEL 25AN1 SCHEMATIC DIAGRAM: SUB

型号25AN1 原理图：副电路

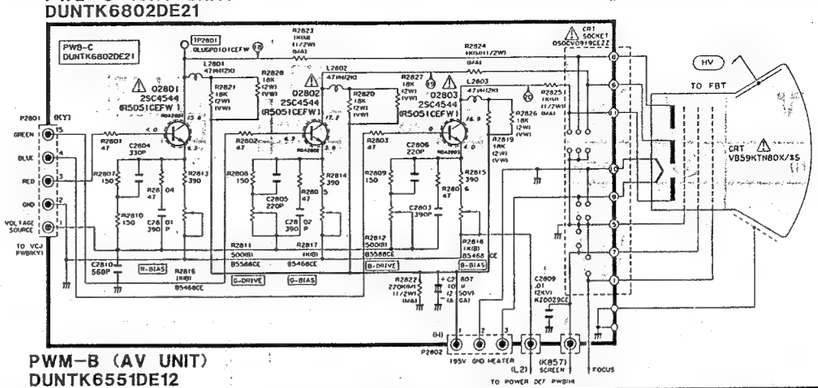
CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

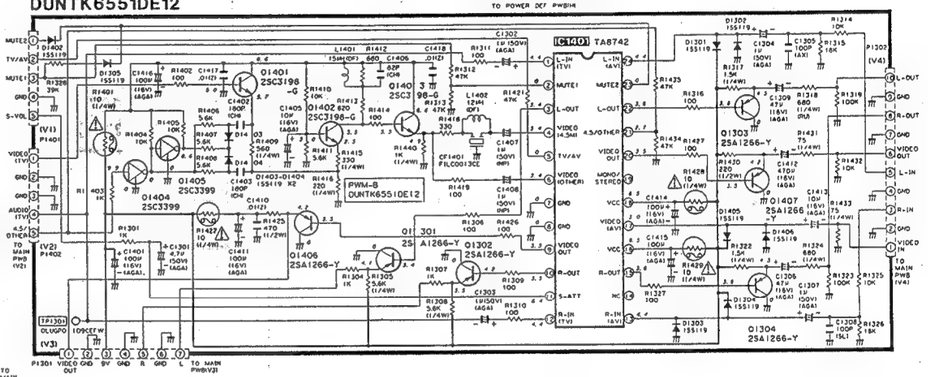
PWB-B (POWER UNIT)
DUNTK7835DE02



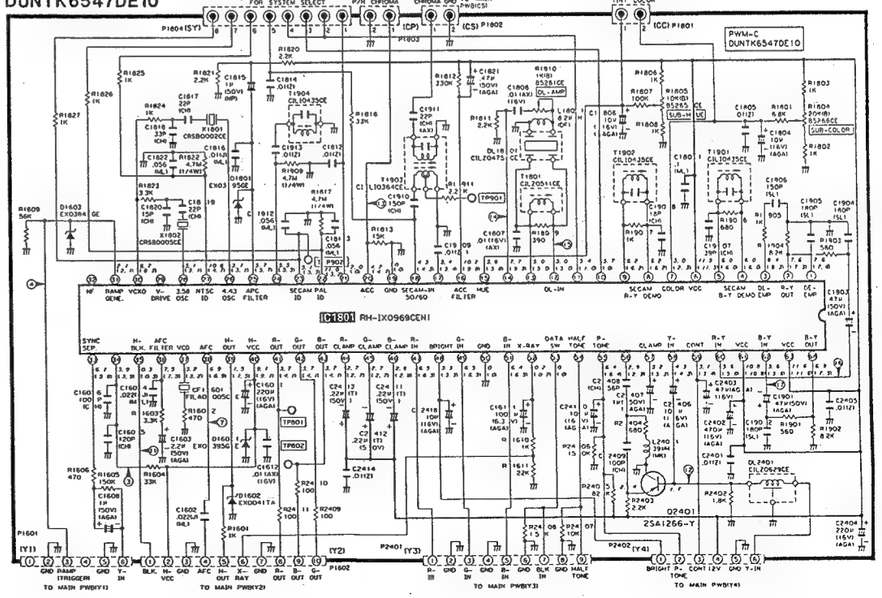
PWB-C (CRT UNIT)
DUNTK6802DE21



PWM-B (AV UNIT)
DUNTK6551DE12



PWM-C (VIDEO CHROMA JUNGLE UNIT)
DUNTK6547DE10



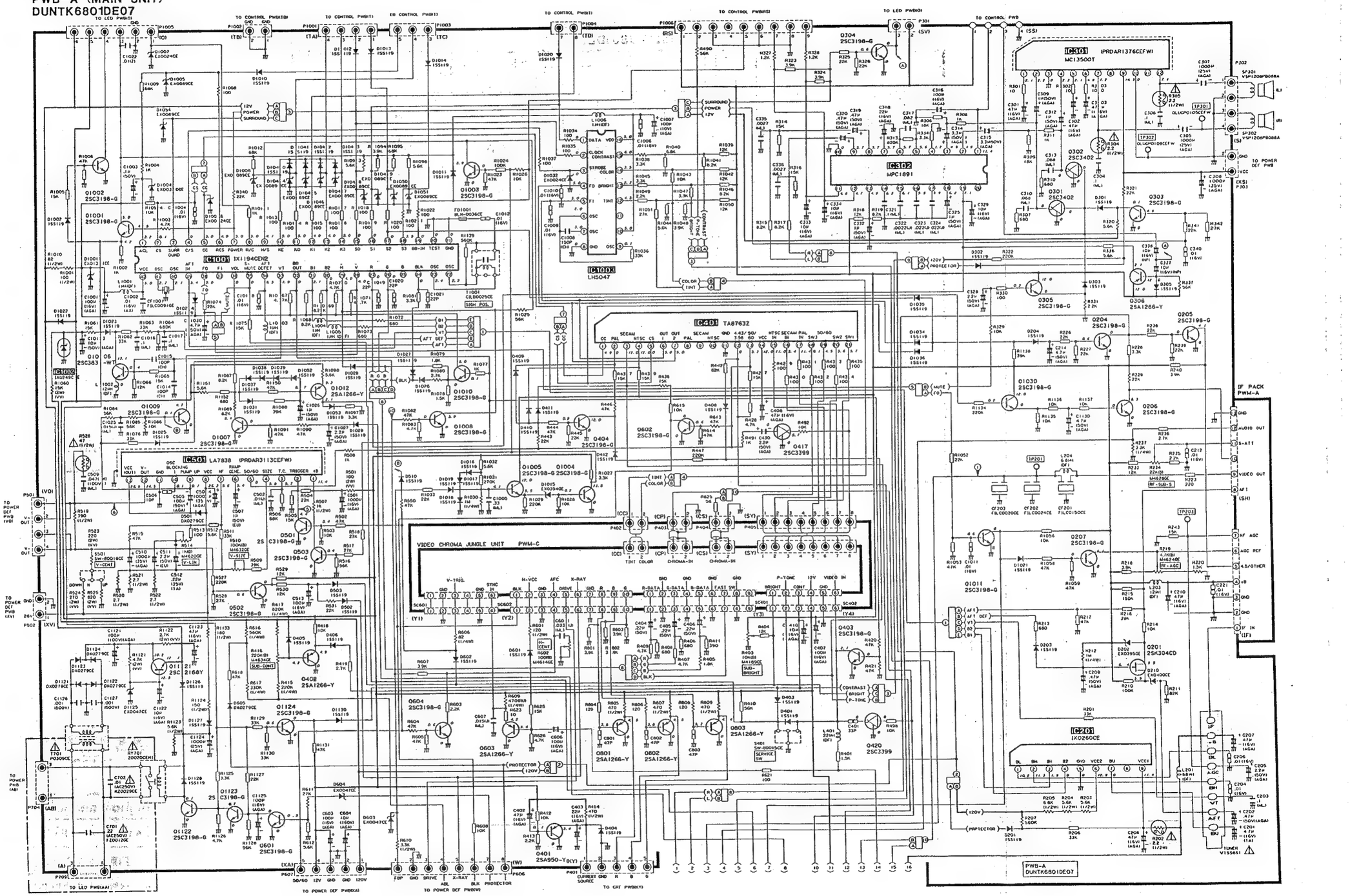
MODEL 25AN1 SCHEMATIC DIAGRAM: MAIN1

型号25AN1 原理图：主电路1

CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

PWB-A (MAIN UNIT)
DUNTK6801DE07



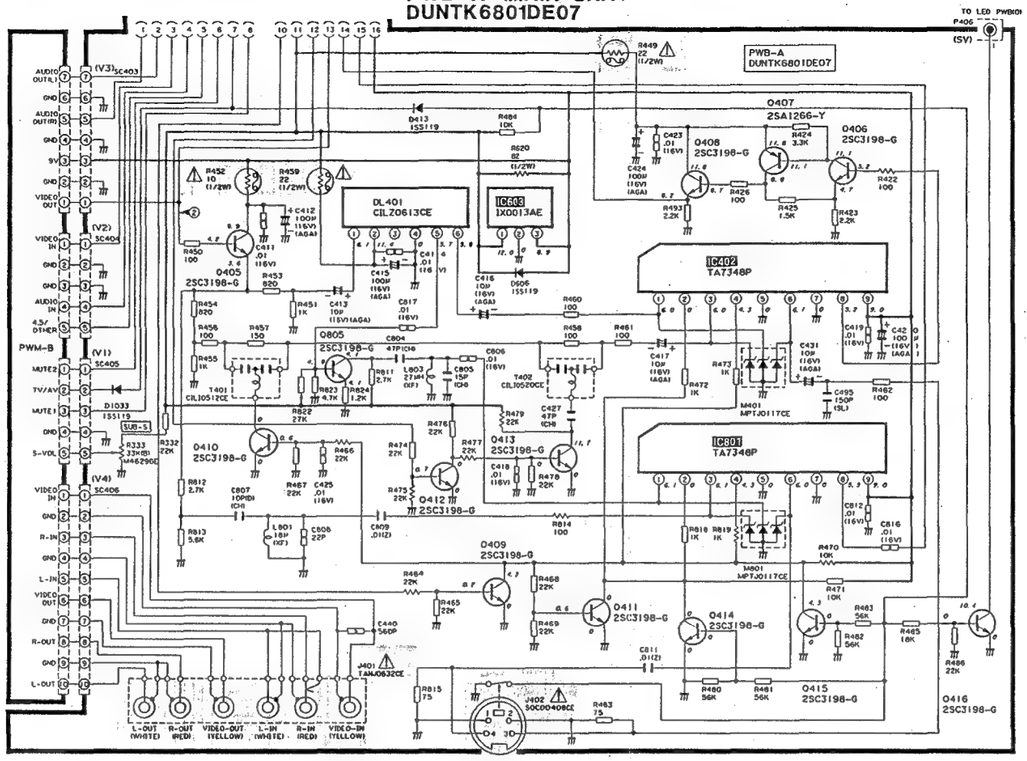
MODEL 25AN1 SCHEMATIC DIAGRAM: MAIN2

型号25AN1 原理图：主电路2

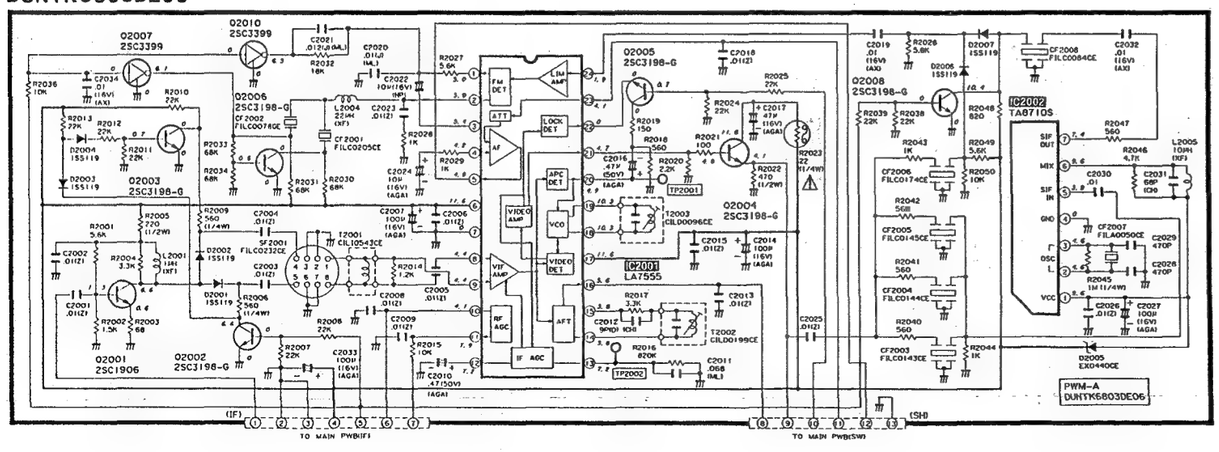
CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

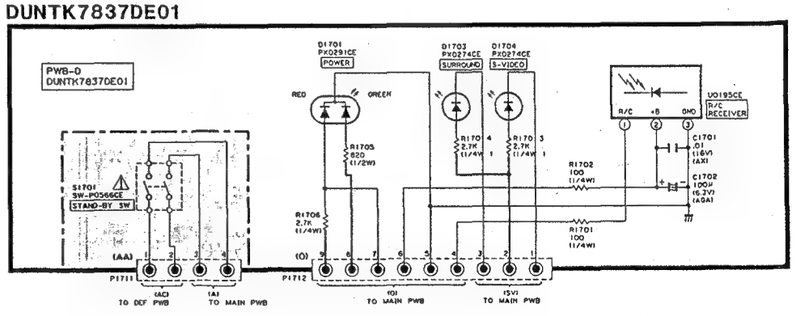
PWB-A (MAIN UNIT) DUNTK6801DE07



PWM-A (IF PACK UNIT) DUNTK6803DE06



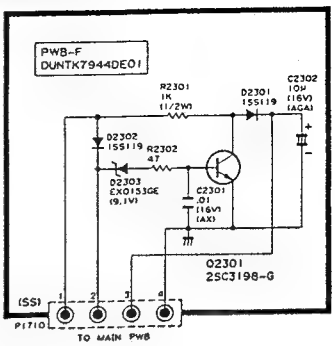
PWB-D (LED UNIT) DUNTK7837DE01



MODEL 25AN1 SCHEMATIC DIAGRAM: MAIN3

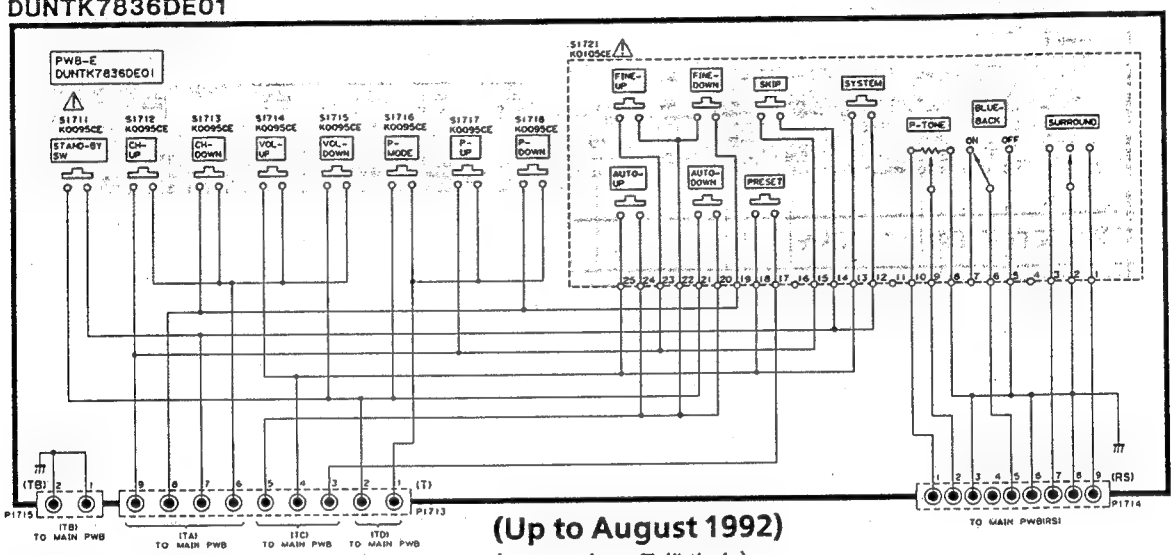
型号25AN1 原理图：主电路3

PWB-F (S-MUTE UNIT)
DUNTK7944DE01



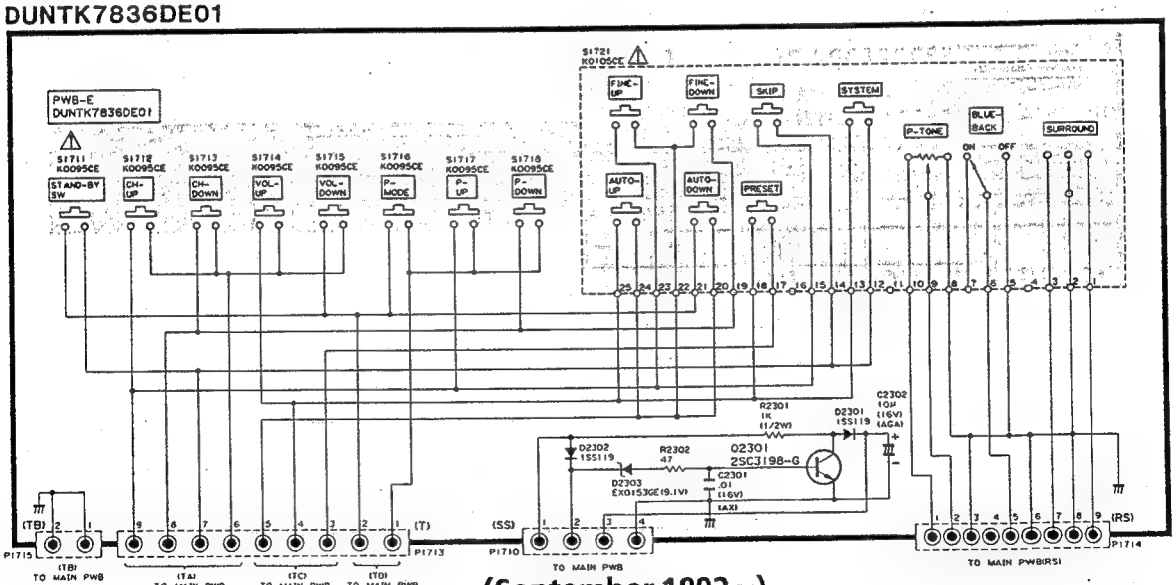
(Up to August 1992)
（以1992年 8 月份为止）

PWB-E (CONTROL UNIT)
DUNTK7836DE01



(Up to August 1992)
（以1992年 8 月份为止）

PWB-E (CONTROL UNIT)
DUNTK7836DE01



(September 1992~)
（自1992年 9 月份起）

CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.

NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

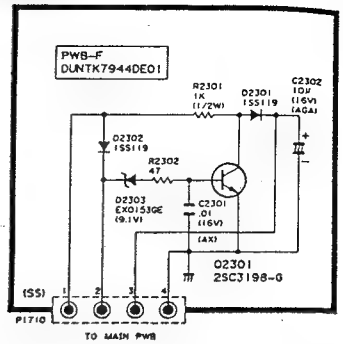
注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

注意：关于1992年 9 月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。

MODEL 29AN1 SCHEMATIC DIAGRAM: MAIN3

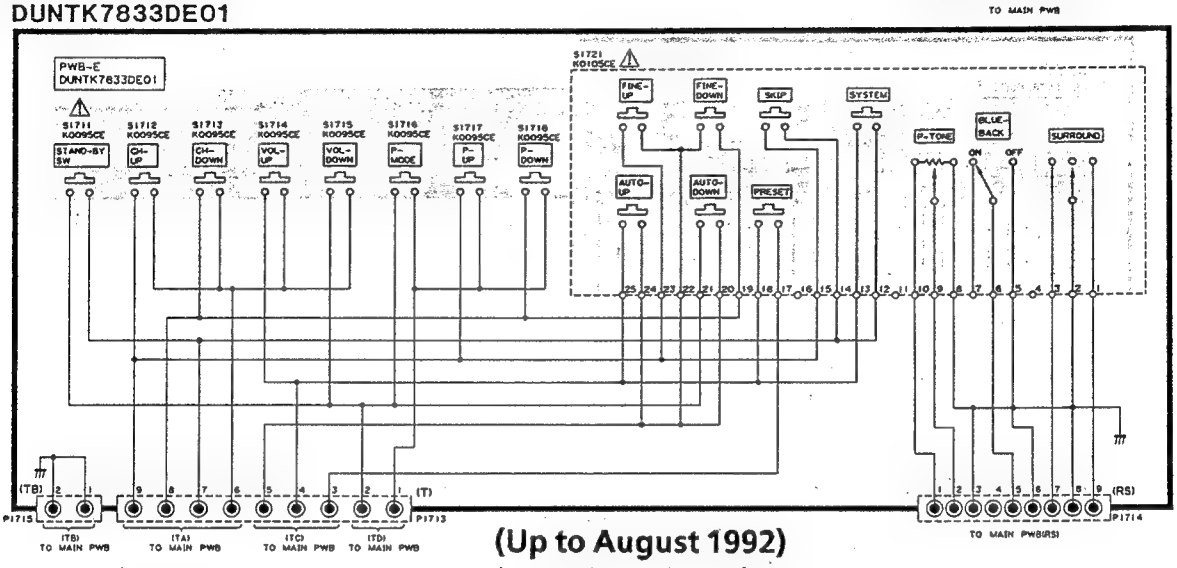
型号29AN1 原理图：主电路3

PWB-F (S-MUTE UNIT)
DUNTK7944DE01



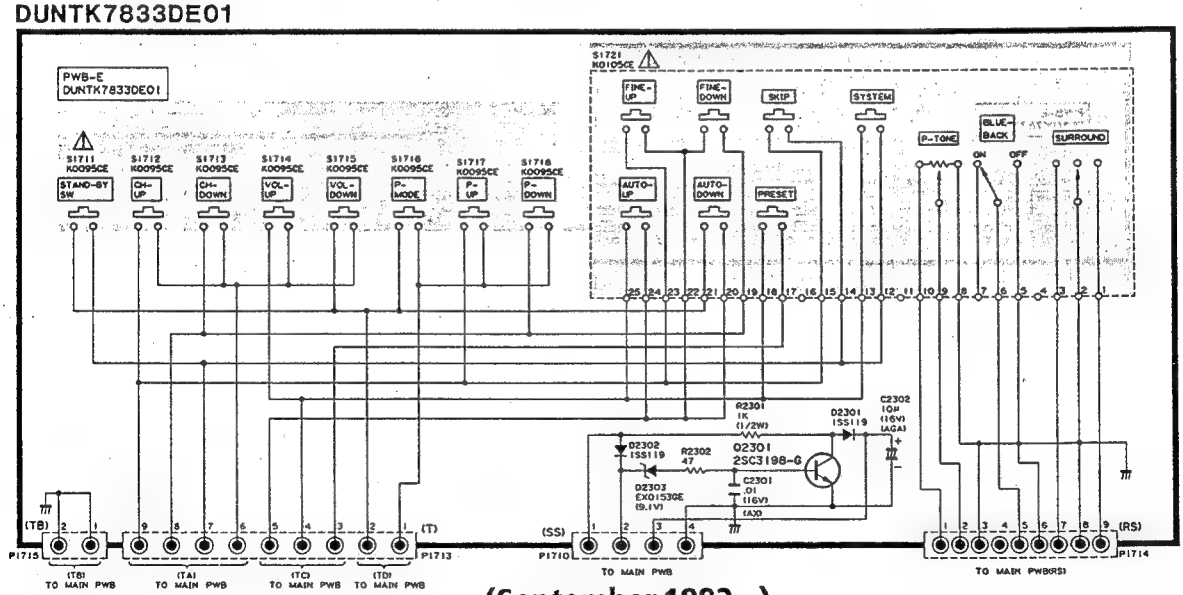
(Up to August 1992)
(以1992年 8 月份为止)

PWB-E (CONTROL UNIT)
DUNTK7833DE01



(Up to August 1992)
(以1992年 8 月份为止)

PWB-E (CONTROL UNIT)
DUNTK7833DE01



(September 1992~)
(自1992年 9 月份起)

CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.

NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

注意：关于1992年 9 月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。

25AN1
29AN1

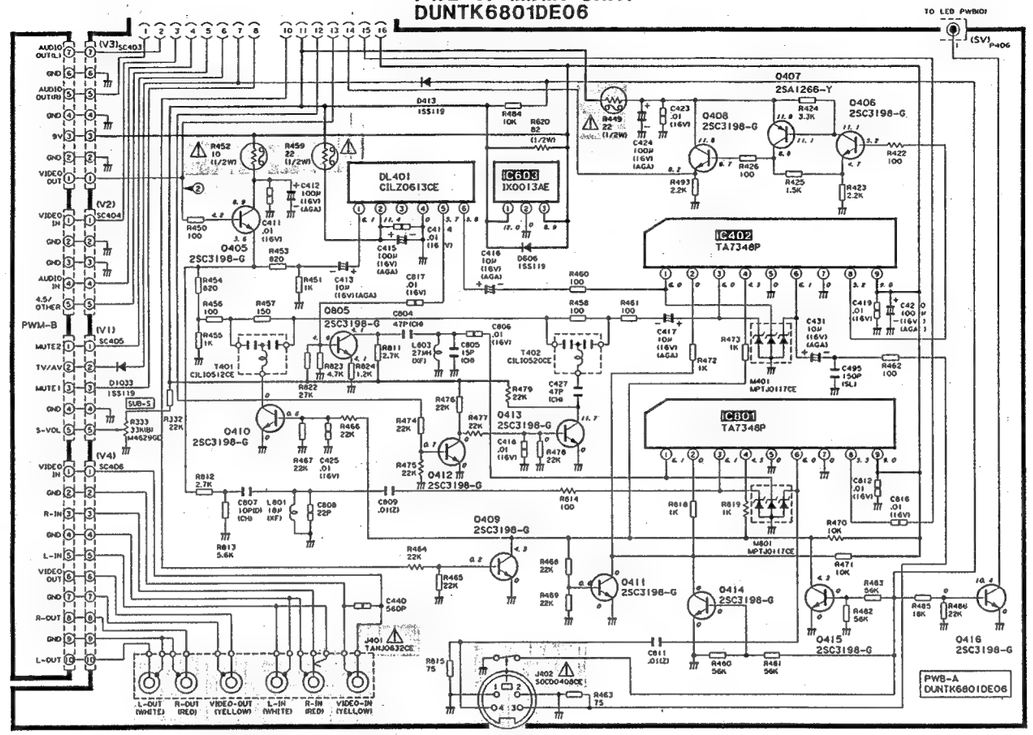
MODEL 29AN1 SCHEMATIC DIAGRAM: MAIN2

型号29AN1 原理图：主电路2

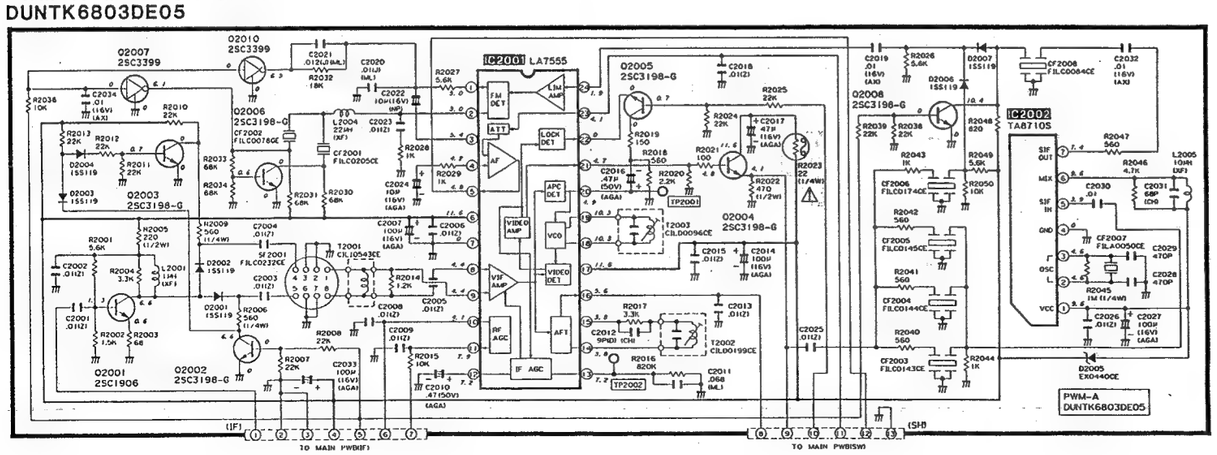
CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

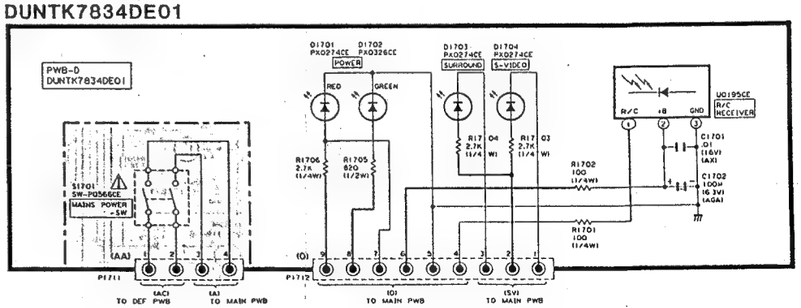
PWB-A (MAIN UNIT)
DUNTK6801DE06



PWM-A (IF PACK UNIT)
DUNTK6803DE05



PWB-D (LED UNIT)
DUNTK7834DE01



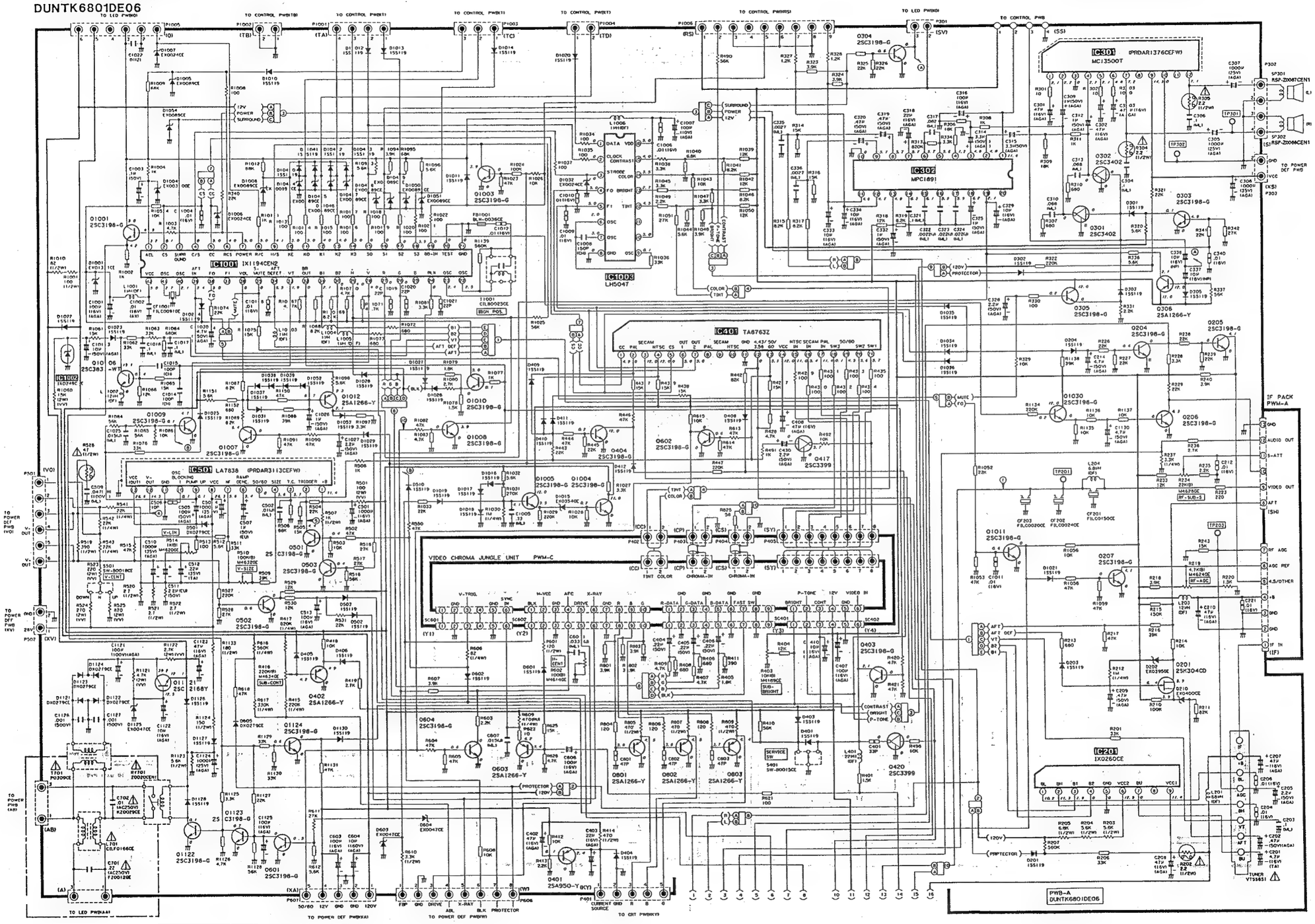
MODEL 29AN1 SCHEMATIC DIAGRAM: MAIN1

型号29AN1 原理图：主电路1

CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

PWB-A (MAIN UNIT)
DUNTK6801DE06



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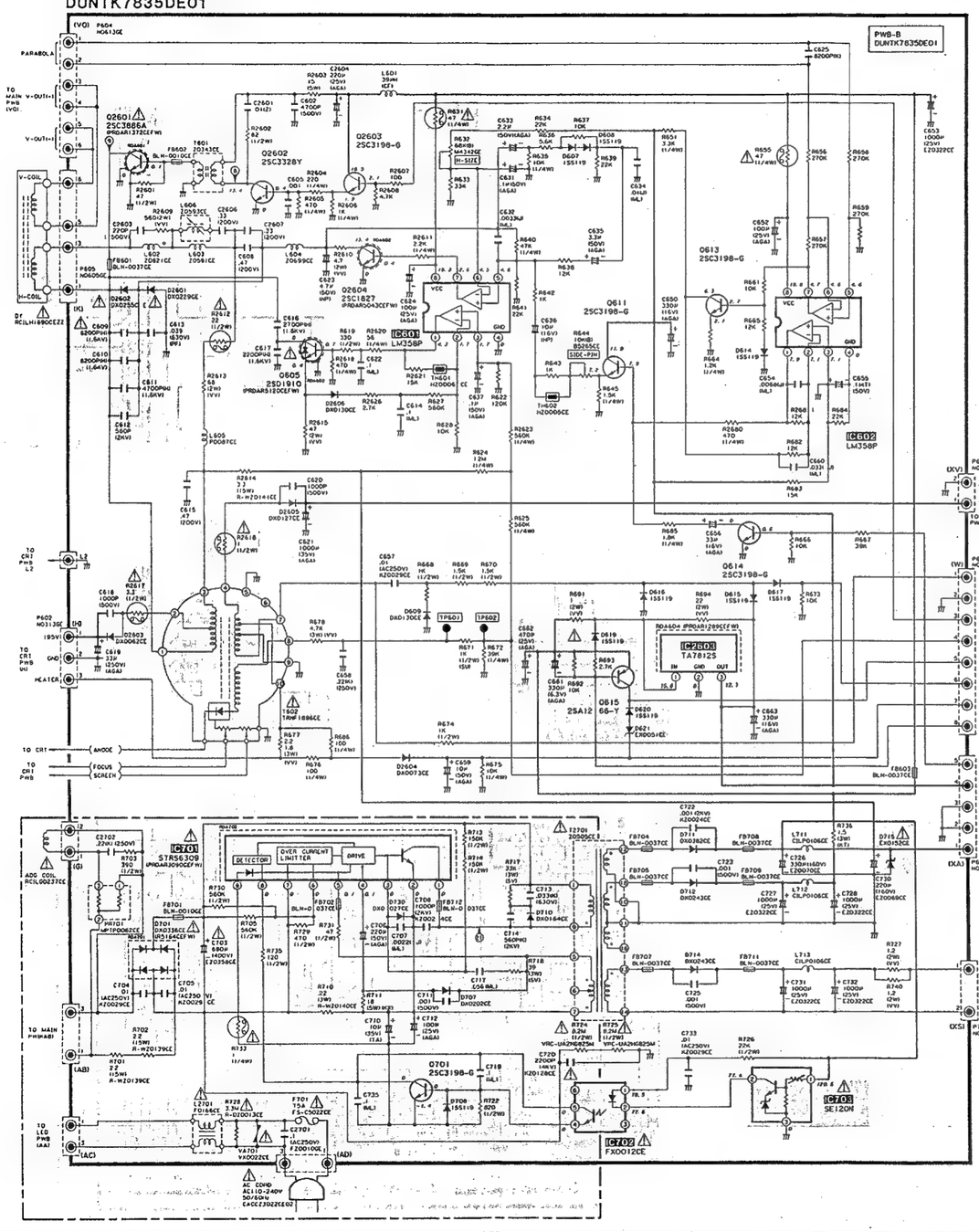
MODEL 29AN1 SCHEMATIC DIAGRAM: SUB

型号29AN1 原理图：副电路

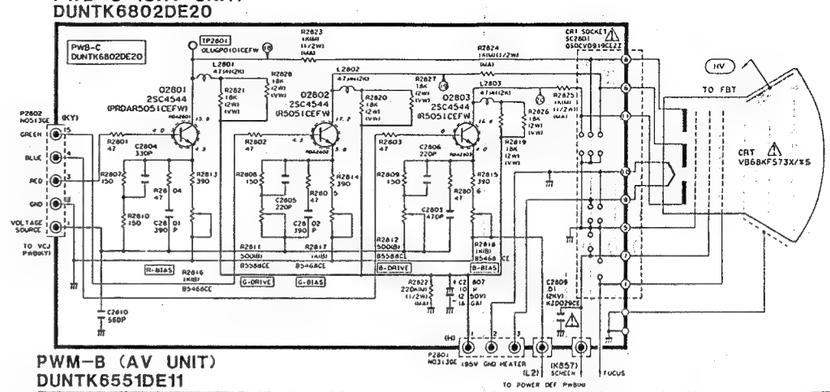
CAUTION: This circuit diagram is original one. Therefore there may be slight differences from yours.

注意：这里的电路原理图均为最初设计原图，与您的机器的电路原理图可能有不同之处。

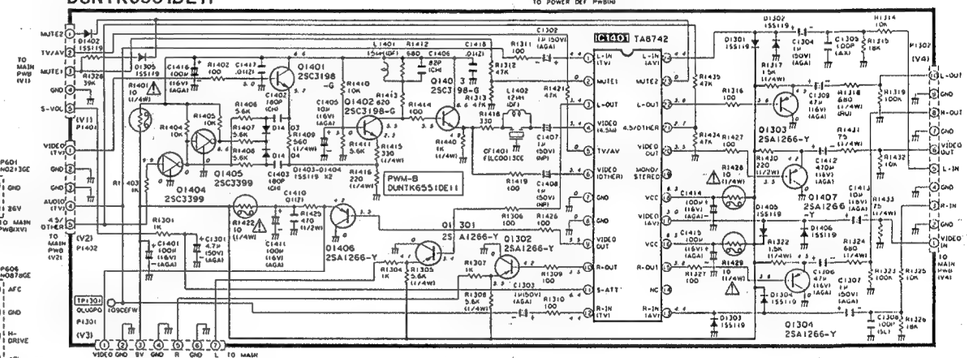
PWB-B (POWER UNIT)
DUNTK7835DE01



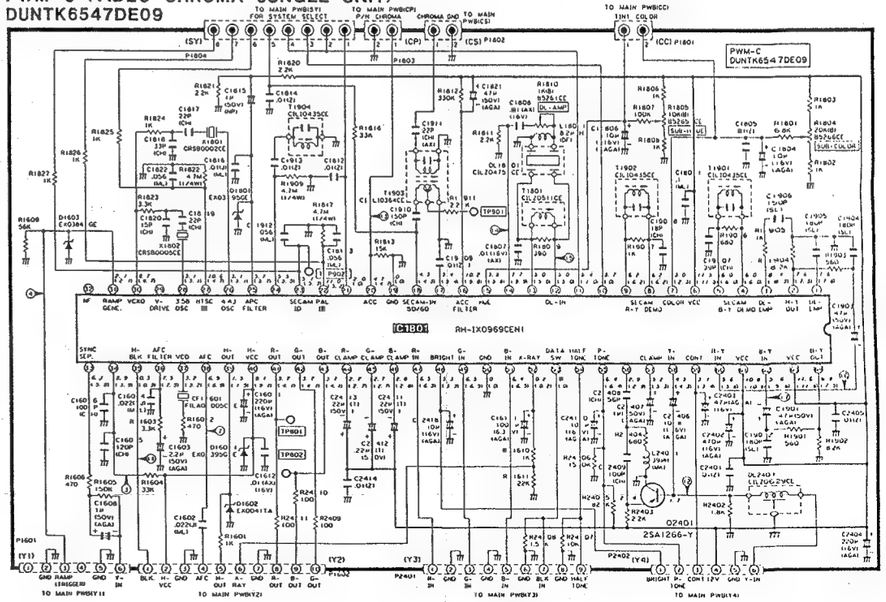
PWB-C (CRT UNIT)
DUNTK6802DE20



PWM-B (AV UNIT)
DUNTK6551DE11



PWM-C (VIDEO CHROMA JUNGLE UNIT)
DUNTK6547DE09

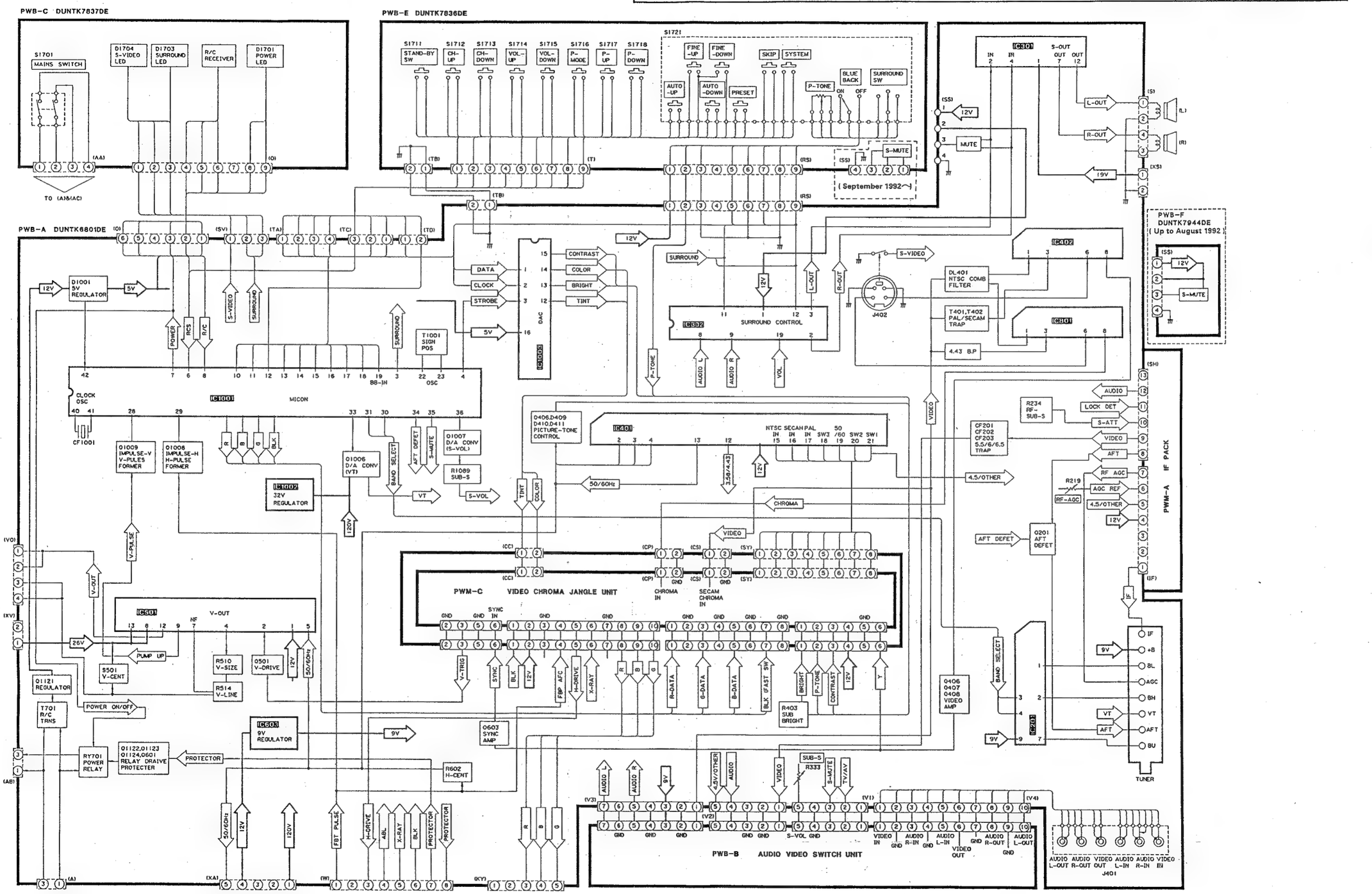


MODEL 25AN1 BLOCK DIAGRAM: MAIN

型号25AN1 方框图：主电路

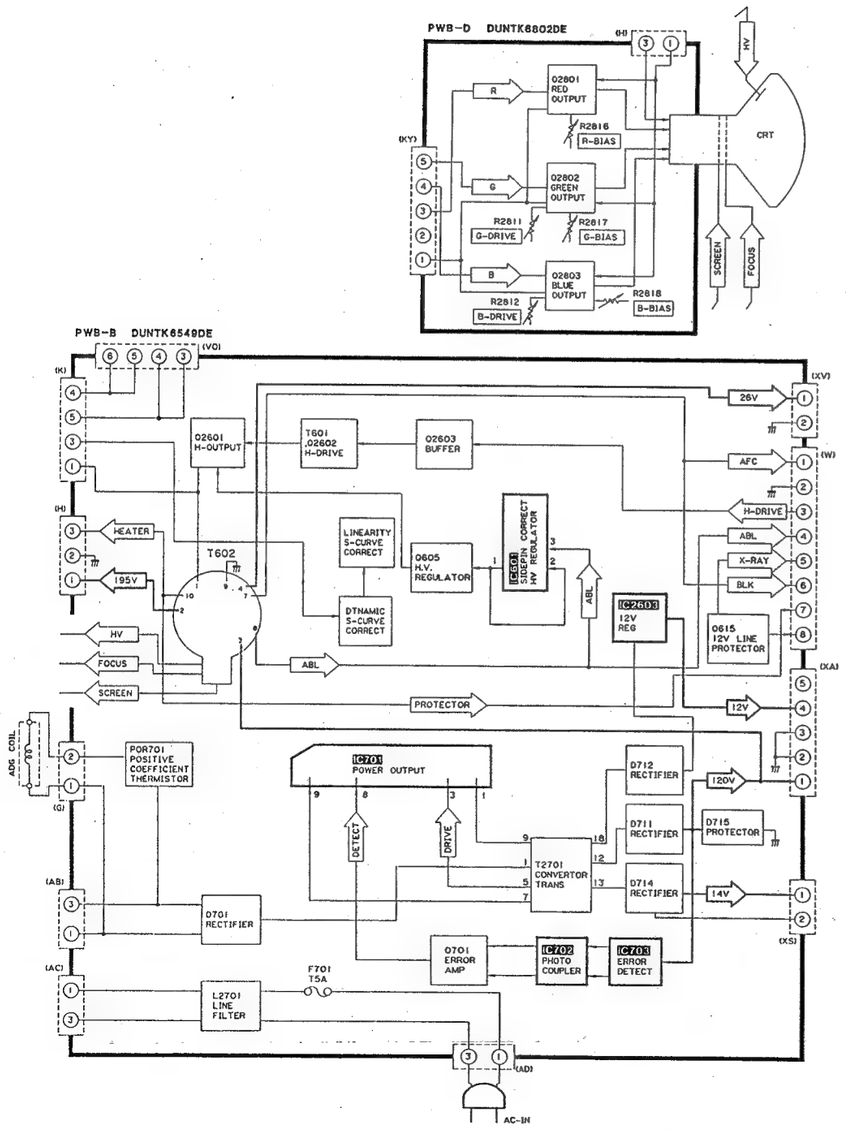
NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

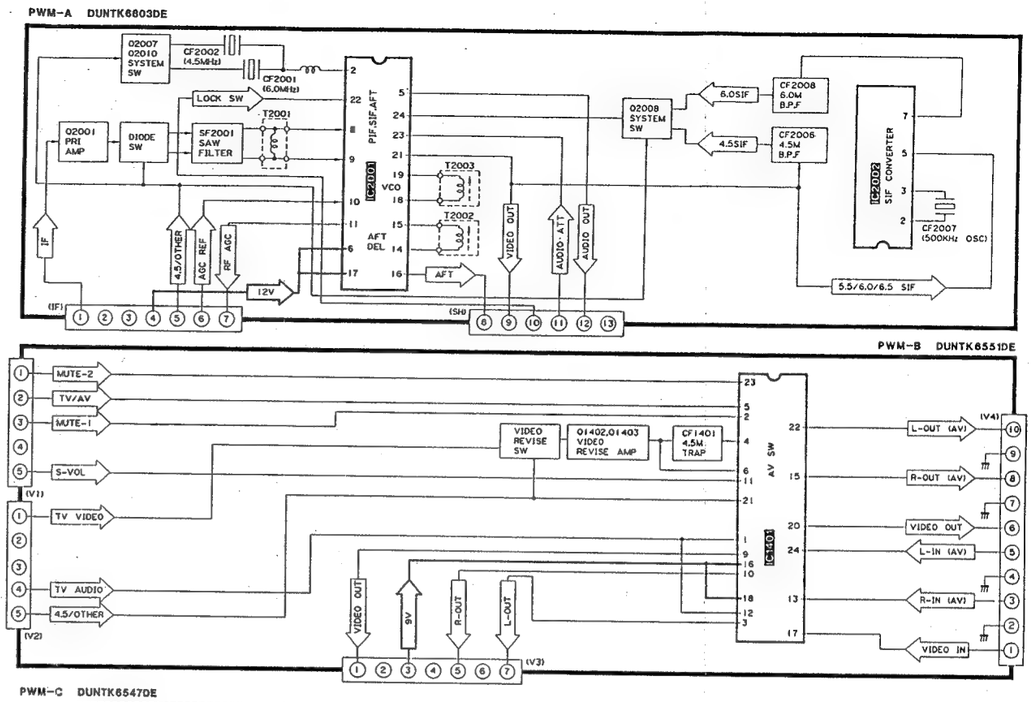
注意：关于1992年9月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。



MODEL 25AN1 BLOCK DIAGRAM: SUB

型号25AN1 方框图：副电路



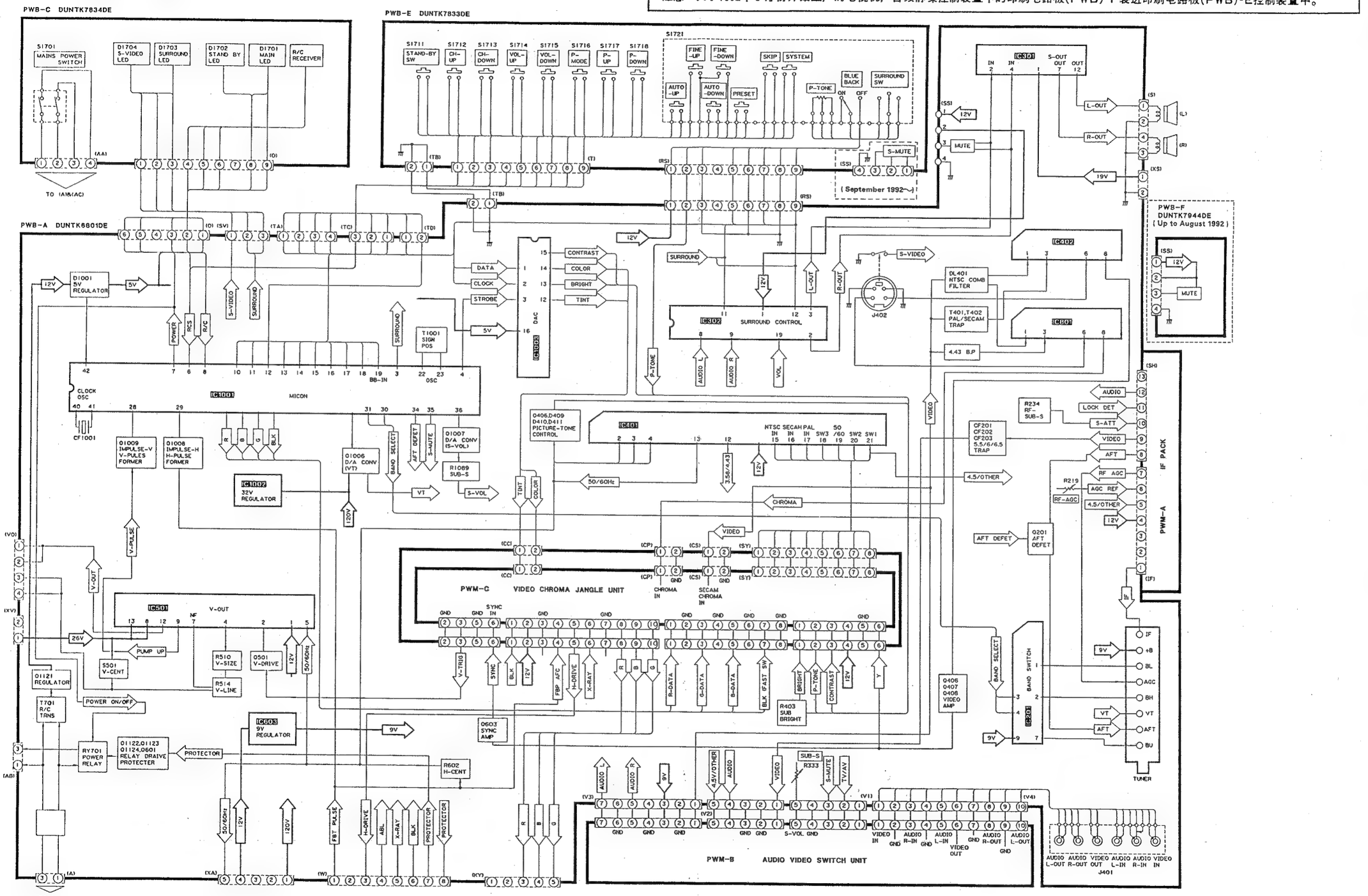


MODEL 29AN1 BLOCK DIAGRAM: MAIN

型号29AN1 方框图：主电路

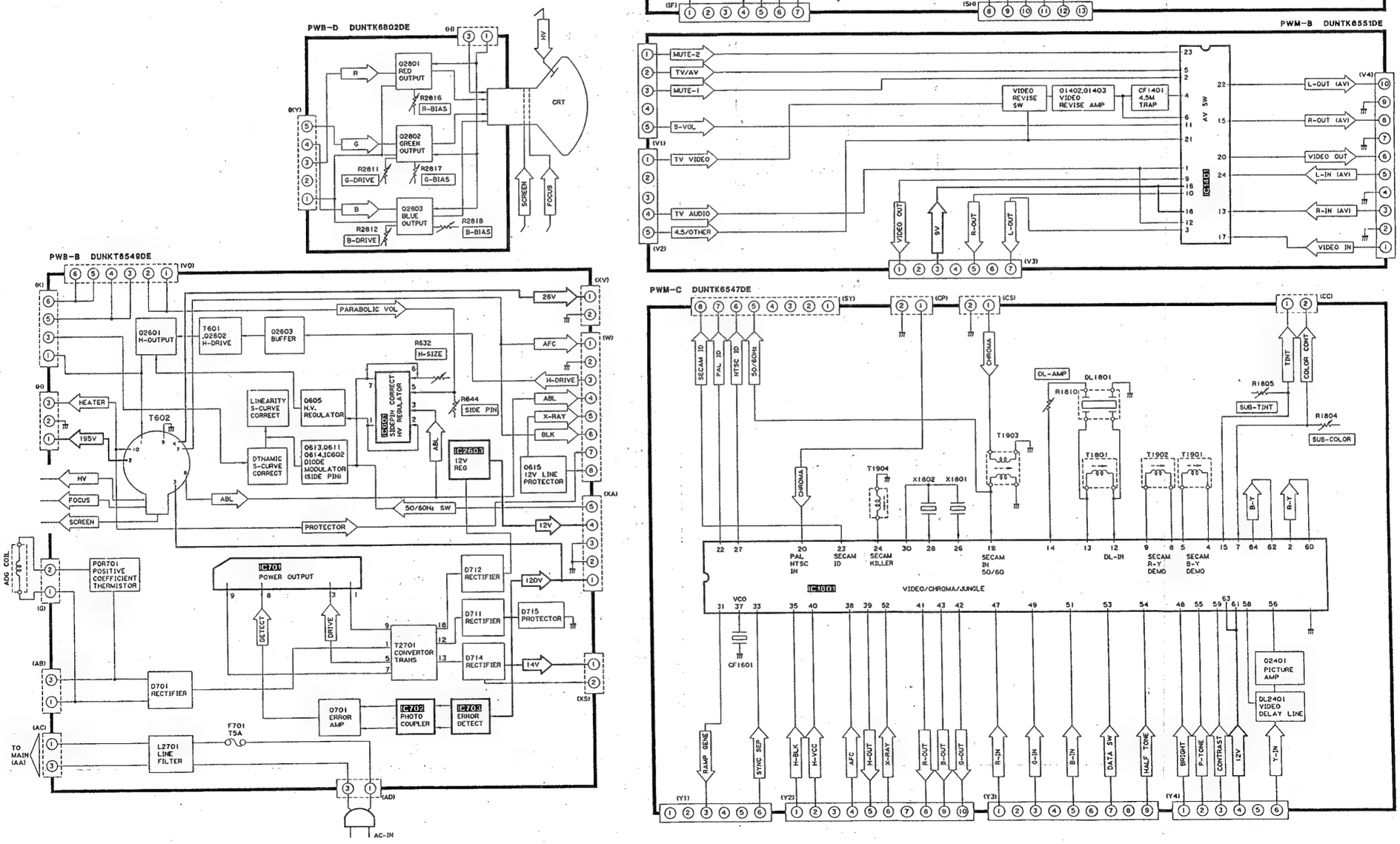
NOTE: The PWB-F of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

注意：关于1992年9月份开始生产的电视机，音频静噪控制装置中的印刷电路板(PWB)-F装进印刷电路板(PWB)-E控制装置中。



MODEL 29AN1 BLOCK DIAGRAM: SUB

型号29AN1 方框图：副电路



PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by"⚠" in the Replacement Parts Lists. The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

MARK ★: SPARE PARTS-DELIVERY SECTION

更换零件表

更换零件

本维修说明书对具有特别安全要求的零件均用标记加以识别；在此更换零件表中，具有特别安全要求的电路元件均用⚠标记以便注意识别。更换零件时，为了用户的安全以及电视机原有的工作性能，务请使用夏普规定零件。否则，可能有导致触电、火灾或其他不测事故发生的可能。

更换零件的订货方法

为了能迅速而确实地接受订货、以及正确无误地按时交货，在订货时请将下列各项明确告知。

1. 型号
2. 参考编号
3. 零件编号
4. 零件名称

★标记：更换零件的交货部门

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES

(NOT REPLACEMENT ITEM)

PWB-A	DUNTK6801DE06	–	Mother Unit (29AN1)	—
PWB-A	DUNTK6801DE07	–	Mother Unit (25AN1)	—
PWB-B	DUNTK7835DE01	–	Deflection/Power Unit (29AN1)	—
PWB-B	DUNTK7835DE02	–	Deflection Unit (25AN1)	—
PWB-C	DUNTK6802DE20	–	CRT Socket Unit (29AN1)	—
PWB-C	DUNTK6802DE21	–	CRT Socket Unit (25AN1)	—
PWB-D	DUNTK7834DE01	–	LED Unit (29AN1)	—
PWB-D	DUNTK7837DE01	–	LED Unit (25AN1)	—
PWB-E	DUNTK7833DE01	–	Control Unit (29AN1)	—
PWB-E	DUNTK7836DE01	–	Control Unit (25AN1)	—
PWB-F	DUNTK7944DE01	–	S-Mute Unit (Up to August 1992)	—
PWM-A	DUNTK6803DE05	–	IF Unit (29AN1)	—
PWM-A	DUNTK6803DE06	–	IF Unit (25AN1)	—
PWM-B	DUNTK6551DE11	–	AV Unit (29AN1)	—
PWM-B	DUNTK6551DE12	–	AV Unit (25AN1)	—
PWM-C	DUNTK6547DE09	–	VCJ Unit (29AN1)	—
PWM-C	DUNTK6547DE10	–	VCJ Unit (25AN1)	—

—— End of PWB ASSEMBLIES ——

PICTURE TUBE

⚠ VB1	VB59KTN80X/*S	J	CRT (25AN1)	CR
⚠ VB1	VB68KFS73X/*S	J	CRT (29AN1)	CY
⚠DY	RCiLH1690CEZZ	J	Deflection Yoke (29AN1)	BH
⚠DY	RCiLH1751CEZZ	J	Deflection Yoke (25AN1)	BE
⚠	RCiLG0237CEZZ	J	Degaussing (ADG) Coil (25AN1)	AX
⚠	RCiLG0375CEZZ	J	Degaussing (ADG) Coil (29AN1)	AY
	LHLDC3011CEZZ	J	ADG Coil Holder, ×4 used	AC

—— End of PICTURE TUBE ——

PWB-A DUNTK6801DE06/07 MOTHER UNIT

TUNER

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

⚠	VTUVTSS6S1///	J	Tuner, VHF/UHF	BB

INTEGRATED CIRCUITS

IC201	RH-iX0260CEZZ	J	LA7910	AF
IC301	VHiMC13500T2E	J	MC13500T2	AN
IC302	VHiMPC1891Y-1	J	C1891ACY	AP
IC401	VHiTA8763Z/-1	J	TA8763Z	AM
IC402	VHiTA7348P/-1	J	TA7348P	AK
IC501	VHiLA7838//-1	J	LA7838	AK
IC603	RH-iX0013AEZZ	J	TA78009AP	AK
IC801	VHiTA7348P/-1	J	TA7348P	AK

Ref. No.	Part No.	★	Description	Code

PWB-A DUNTK6801DE06/07 MOTHER UNIT (Continued)

NTEGRATED CIRCUITS (Continued)

IC1001	RH-iX1194CEN2	J	LR37906Y	AW
IC1002	RH-iX0249CEZZ	J	HZT33	AE
IC1003	VHiLH5047//-1	J	LH5047	AM

TRANSISTORS

Q201	VS2SK304CD/-1	J	2SK304 (CD)	AC
Q204	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q205	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q206	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q207	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q301	VS2SC3402//-1	J	2SC3402	AB
Q302	VS2SC3402//-1	J	2SC3402	AB
Q303	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q304	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q305	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q306	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q401	VS2SA950-Y/1E	J	2SA950 (Y)	AD
Q402	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q403	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q404	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q405	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q406	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q407	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q408	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q409	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q410	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q411	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q412	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q413	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q414	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q415	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q416	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q417	VS2SC3399//-1	J	2SC3399	AB
Q420	VS2SC3399//-1	J	2SC3399	AB
Q501	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q502	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q503	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q601	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q602	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q603	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q604	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q801	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q802	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q803	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q805	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1001	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1002	VS2SC3198-G-1	J	2SC3198 (G) (25AN1)	AA
Q1003	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1004	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1005	VS2SC3198-G-1	J	2SC3198 (G)	AA

Ref. No.	Part No.	★	Description	Code

TRANSISTORS (Continued)

Q1006	VS2SC383-WT-1	J	2SC383 (WT)	AE
Q1007	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1008	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1009	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1010	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1011	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1012	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q1030	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1121	VS2SC2168Y/1E	J	2SC2168 (Y)	AG
Q1122	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1123	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1124	VS2SC3198-G-1	J	2SC3198 (G)	AA

DIODES

D201	VHD1SS119//1E	J	1SS119	AA
D202	RH-EX0395GEZZ	J	Zener Diode	AA
D203	VHD1SS119//1E	J	1SS119	AA
D204	VHD1SS119//1E	J	1SS119	AA
D210	RH-EX0400CEZZ	J	Zener Diode	AC
D301	VHD1SS119//1E	J	1SS119	AA
D302	VHD1SS119//1E	J	1SS119	AA
D303	VHD1SS119//1E	J	1SS119	AA
D305	VHD1SS119//1E	J	1SS119	AA
D401	VHD1SS119//1E	J	1SS119	AA
D403	VHD1SS119//1E	J	1SS119	AA
D404	VHD1SS119//1E	J	1SS119	AA
D405	VHD1SS119//1E	J	1SS119	AA
D406	VHD1SS119//1E	J	1SS119	AA
D408	VHD1SS119//1E	J	1SS119	AA
D409	VHD1SS119//1E	J	1SS119	AA
D410	VHD1SS119//1E	J	1SS119	AA
D411	VHD1SS119//1E	J	1SS119	AA
D412	VHD1SS119//1E	J	1SS119	AA
D413	VHD1SS119//1E	J	1SS119	AA
D501	RH-DX0279CEZZ	J		AB
D502	VHD1SS119//1E	J	1SS119	AA
D503	VHD1SS119//1E	J	1SS119	AA
D510	VHD1SS119//1E	J	1SS119 (29AN1)	AA
D601	VHD1SS119//1E	J	1SS119	AA
D602	VHD1SS119//1E	J	1SS119	AA
D603	RH-EX0047CEZZ	J	Zener Diode	AB
D604	RH-EX0047CEZZ	J	Zener Diode	AB
D605	RH-DX0279CEZZ	J		AB
D606	VHD1SS119//1E	J	1SS119	AA
D1001	RH-EX0131GEZZ	J	Zener Diode	AB
D1002	VHD1SS119//1E	J	1SS119 (25AN1)	AA
D1004	RH-EX0030GEZZ	J	Zener Diode	AB
D1005	RH-EX0089CEZZ	J	Zener Diode	AB
D1006	RH-EX0024CEZZ	J	Zener Diode	AB
D1007	RH-EX0024CEZZ	J	Zener Diode	AB
D1008	RH-EX0089CEZZ	J	Zener Diode	AB
D1010	VHD1SS119//1E	J	1SS119	AA
D1011	VHD1SS119//1E	J	1SS119	AA

PWB-A DUNTK6801DE06/07
MOTHER UNIT (Continued)

DIODES (Continued)

Ref. No.	Part No.	★	Description	Code
D1012	VHD1SS119//1E	J	1SS119	AA
D1013	VHD1SS119//1E	J	1SS119	AA
D1014	VHD1SS119//1E	J	1SS119	AA
D1015	RH-EX0354GEZZ	J	Zener Diode	AA
D1016	VHD1SS119//1E	J	1SS119	AA
D1017	VHD1SS119//1E	J	1SS119	AA
D1018	VHD1SS119//1E	J	1SS119	AA
D1019	VHD1SS119//1E	J	1SS119	AA
D1020	VHD1SS119//1E	J	1SS119	AA
D1021	VHD1SS119//1E	J	1SS119	AA
D1022	VHD1SS119//1E	J	1SS119	AA
D1023	VHD1SS119//1E	J	1SS119	AA
D1024	VHD1SS119//1E	J	1SS119	AA
D1025	VHD1SS119//1E	J	1SS119	AA
D1026	VHD1SS119//1E	J	1SS119	AA
D1027	VHD1SS119//1E	J	1SS119	AA
D1028	VHD1SS119//1E	J	1SS119	AA
D1029	VHD1SS119//1E	J	1SS119	AA
D1031	VHD1SS119//1E	J	1SS119	AA
D1032	RH-EX0024CEZZ	J	Zener Diode	AB
D1033	VHD1SS119//1E	J	1SS119	AA
D1034	VHD1SS119//1E	J	1SS119	AA
D1035	VHD1SS119//1E	J	1SS119	AA
D1036	VHD1SS119//1E	J	1SS119	AA
D1037	VHD1SS119//1E	J	1SS119	AA
D1038	VHD1SS119//1E	J	1SS119	AA
D1039	VHD1SS119//1E	J	1SS119	AA
D1040	VHD1SS119//1E	J	1SS119	AA
D1041	VHD1SS119//1E	J	1SS119	AA
D1042	VHD1SS119//1E	J	1SS119	AA
D1043	VHD1SS119//1E	J	1SS119	AA
D1044	RH-EX0089CEZZ	J	Zener Diode	AB
D1045	RH-EX0089CEZZ	J	Zener Diode	AB
D1046	RH-EX0089CEZZ	J	Zener Diode	AB
D1047	RH-EX0089CEZZ	J	Zener Diode	AB
D1048	RH-EX0089CEZZ	J	Zener Diode	AB
D1049	RH-EX0089CEZZ	J	Zener Diode	AB
D1050	RH-EX0089CEZZ	J	Zener Diode	AB
D1051	RH-EX0089CEZZ	J	Zener Diode	AB
D1052	VHD1SS119//1E	J	1SS119	AA
D1053	VHD1SS119//1E	J	1SS119	AA
D1054	RH-EX0089CEZZ	J	Zener Diode	AB
D1121	RH-DX0279CEZZ	J		AB
D1122	RH-DX0279CEZZ	J		AB
D1123	RH-DX0279CEZZ	J		AB
D1124	RH-DX0279CEZZ	J		AB
D1125	RH-EX0047CEZZ	J	Zener Diode	AB
D1126	VHD1SS119//1E	J	1SS119	AA
D1127	VHD1SS119//1E	J	1SS119	AA
D1128	VHD1SS119//1E	J	1SS119	AA
D1130	VHD1SS119//1E	J	1SS119	AA

PACKAGED CIRCUITS

Ref. No.	Part No.	★	Description	Code
M401	RMPTJ0117CEZZ	J		AD
M801	RMPTJ0117CEZZ	J		AD
⚠ RY701	RRLYZ0020CEN1	J	Positive Coefficient Thermistor	AK

COILS AND TRANSFORMERS

Ref. No.	Part No.	★	Description	Code
CF201	RFILC0150CEZZ	J	Ceramic Filter	AF
CF202	RFILC0024CEZZ	J	Ceramic Filter	AE
CF203	RFILC0020CEZZ	J	Ceramic Filter	AE
CF1001	RFILC0091GEZZ	J	Ceramic Filter	AD
DL401	RFILZ0613CEZZ	J	Coil	AT
L201	VP-DF680K0000	J	Coil, 68μH	AB
L203	VP-DF120K0000	J	Coil, 12μH	AB
L204	VP-DF6R8K0000	J	Coil, 6.8μH	AB
L401	VP-DF220K0000	J	Coil, 22μH	AB
L801	VP-XF180K0000	J	Coil, 18μH	AB
L803	VP-XF270K0000	J	Coil, 27μH	AB
L1001	VP-DF1R0K0000	J	Coil, 1μH	AB
L1002	VP-DF120K0000	J	Coil, 12μH	AB
L1003	VP-DF1R0K0000	J	Coil, 1μH	AB
L1004	VP-DF1R0K0000	J	Coil, 1μH	AB
L1005	VP-DF1R0K0000	J	Coil, 1μH	AB
L1006	VP-DF1R0K0000	J	Coil, 1μH	AB
T401	RCILI0512CEZZ	J		AE
T402	RCILI0520CEZZ	J		AE
⚠ T701	RTRNP0309CEZZ	J		AS
T1001	RCILB0025CEZZ	R	Sign Position Adj. Coil	AD

CONTROLS

Ref. No.	Part No.	★	Description	Code
R219	RVR-M4624GEZZ	J	4.7k (B) RF-AGC	AB
R234	RVR-M4628GEZZ	J	22k (B) RF-Sub-S	AB
R333	RVR-M4629GEZZ	J	33k (B) Sub-S	AB
R403	RVR-M4189CEZZ	J	10k (B) Sub-Bright	AC
R416	RVR-M4634GEZZ	J	220k (B) Sub-Contrast	AC
R510	RVR-M4632GEZZ	J	100k (B) Vertical Size	AB
R514	RVR-M4620GEZZ	J	1k (B) Vertical Line.	AB
R602	RVR-M4614GEZZ	J	100 (B) Horiz. -Center	AB

CAPACITORS

Ref. No.	Part No.	★				Code
C201	VCSATA1CE475K	J	4.7	16V	Tantalum	AC
C202	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C203	VCFYHA1HA104J	J	0.1	50V	M. Polyester	AB
C204	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C205	VCEAGA1HW225M	J	2.2	50V	Electrolytic	AB
C206	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C207	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C208	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C209	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C210	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C212	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C214	VCEAGA1HW475M	J	4.7	50V	Electrolytic	AB
C221	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA

PWB-A DUNTK6801DE06/07
MOTHER UNIT (Continued)

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description			Code
C301	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C302	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C303	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C304	VCFYHA1HA104J	J	0.1	50V	M. Polyester	AB
C305	VCEAGA1EW108M	J	1000	25V	Electrolytic	AD
C306	VCFYHA1HA104J	J	0.1	50V	M. Polyester	AB
C307	VCEAGA1EW108M	J	1000	25V	Electrolytic	AD
C308	VCEAGA1VW108M	J	1000	35V	Electrolytic	AD
C309	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C310	VCFYHA1HA683J	J	0.068	50V	M. Polyester	AC
C312	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C313	VCFYHA1HA683J	J	0.068	50V	M. Polyester	AC
C314	VCEAGA1HW335M	J	3.3	50V	Electrolytic	AB
C315	VCEAGA1HW335M	J	3.3	50V	Electrolytic	AB
C316	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C317	VCFYHA1HA823J	J	0.082	50V	M. Polyester	AA
C318	VCEAGA1CW226M	J	22	16V	Electrolytic	AB
C319	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C320	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C321	VCFYHA1HA104J	J	0.1	50V	M. Polyester	AB
C322	VCQYTA1HM222J	J	2200p	50V	Mylar	AA
C323	VCQYTA1HM223J	J	0.022	50V	Mylar	AA
C324	VCQYTA1HM223J	J	0.022	50V	Mylar	AA
C325	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C326	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C328	VCEAGA1HW225M	J	2.2	50V	Electrolytic	AB
C329	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C332	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C333	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C334	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C335	VCQYTA1HM272J	J	2700p	50V	Mylar	AA
C336	VCQYTA1HM272J	J	2700p	50V	Mylar	AA
C337	VCE9AA1CW106M	J	10	16V	Electrolytic (N.P)	AB
C338	VCE9AA1CW106M	J	10	16V	Electrolytic (N.P)	AB
C340	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C401	VCCSMN1HL330J	J	33p	50V	Ceramic	AA
C402	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C403	VCEAGA1CW226M	J	22	16V	Electrolytic	AB
C404	VCEAGA1HW224T	J	0.22	50V	Electrolytic	AB
C405	VCEAGA1HW224T	J	0.22	50V	Electrolytic	AB
C406	VCEAGA1HW224T	J	0.22	50V	Electrolytic	AB
C407	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C408	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C410	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C411	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C412	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C413	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C414	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C415	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C416	VCEAGA1CW106M	J	10	16V	Electrolytic	AA

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description			Code
C417	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C418	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C419	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C420	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C423	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C424	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C425	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C427	VCCCPA1HH470J	J	47p	50V	Ceramic	AA
C430	VCEAGA1HW225M	J	2.2	50V	Electrolytic	AB
C431	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C440	VCKYMN1HB561K	J	560p	50V	Ceramic	AA
C495	VCCSPA1HL151J	J	150p	50V	Ceramic	AA
C501	VCEAGA1CW108M	J	1000	16V	Electrolytic	AD
C502	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C504	VCEAGA1VW108M	J	1000	35V	Electrolytic	AD
C505	VCEAGA1HW107M	J	100	50V	Electrolytic	AC
C506	VCCCMN1HH100J	J	10p	50V	Ceramic	AA
C507	VCEACA1HC105M	J	1	50V	Electrolytic	AC
C509	VCQYSG2AA473K	J	0.047	100V	Mylar	AC
C510	VCEAGA1VW108M	J	1000	35V	Electrolytic	AD
C511	VCEACA1HW225M	J	2.2	50V	Electrolytic	AC
C512	VCSATA1VE224K	J	0.22	35V	Tantalum	AC
C513	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C601	VCQYTA1HM333J	J	0.033	50V	Mylar	AA
C603	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C604	VCEAGA2CW106M	J	10	160V	Electrolytic	AC
C606	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C607	VCQYTA1HM153J	J	0.015	50V	Mylar	AA
⚠ C701	RC-FZ0012CEZZ	J	0.22	AC250V	Mylar	AE
⚠ C702	RC-KZ0029CEZZ	J	0.01	AC250V	Ceramic	AC
C801	VCCSMN1HL470J	J	47p	50V	Ceramic	AA
C802	VCCSMN1HL470J	J	47p	50V	Ceramic	AA
C803	VCCSMN1HL470J	J	47p	50V	Ceramic	AA
C804	VCCCPA1HH470J	J	47p	50V	Ceramic	AA
C805	VCCCPA1HH150J	J	15p	50V	Ceramic	AA
C806	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C807	VCCCPA1HH100D	J	10p	50V	Ceramic	AA
C808	VCCSMN1HL220J	J	22p	50V	Ceramic	AA
C809	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C811	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C812	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C816	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C817	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C1001	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1002	VCKYD41CY103N	J	0.01	16V	Ceramic	AA
C1003	VCEAAA1HW104T	J	0.1	50V	Electrolytic	AB
C1004	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C1005	VCFYHA1HA334J	J	0.33	50V	M. Polyester	AC
C1006	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C1007	VCEAGA1AW107M	J	100	10V	Electrolytic	AB
C1008	VCCCPA1HH151J	J	150p	50V	Ceramic	AA
C1009	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C1010	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C1011	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA
C1012	VCKYMN1CY103N	J	0.01	16V	Ceramic	AA

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MOTHER UNIT (Continued)

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description	Code
C1013	VCEAGA1HW106M	J	10 50V Electrolytic	AC
C1014	VCCCPA1HH101J	J	100p 50V Ceramic	AA
C1015	VCCCPA1HH101J	J	100p 50V Ceramic	AA
C1016	VCFYHA1HA104J	J	0.1 50V M. Polyester	AB
C1017	VCFYHA1HA104J	J	0.1 50V M. Polyester	AB
C1018	VCKYMN1CY103N	J	0.01 16V Ceramic	AA
C1019	VCCSMN1HL220J	J	22p 50V Ceramic	AA
C1020	VCCSMN1HL220J	J	22p 50V Ceramic	AA
C1021	VCCSMN1HL220J	J	22p 50V Ceramic	AA
C1022	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C1025	VCQYTA1HM153J	J	0.015 50V Mylar	AA
C1026	VCEAGA1HW105M	J	1 50V Electrolytic	AC
C1027	VCEAGA1HW225M	J	2.2 50V Electrolytic	AB
C1030	VCEAGA1HW475M	J	4.7 50V Electrolytic	AB
C1121	VCEAGA2AW107M	J	100 100V Electrolytic	AD
C1122	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C1123	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C1124	VCEAGA1EW108M	J	1000 25V Electrolytic	AD
C1125	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C1126	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C1127	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C1130	VCEAGA1HW475M	J	4.7 50V Electrolytic	AB

RESISTORS

Ref. No.	Part No.	★	Description	Code
R201	VRD-MN2BE333J	J	33k 1/8W Carbon Chip	AA
⚠ R202	VRG-RL2HB2R2J	J	2.2 1/2W Fuse Resistor	AB
R203	VRD-RA2HD562J	J	5.6k 1/2W Carbon	AA
R204	VRD-RA2HD562J	J	5.6k 1/2W Carbon	AA
R205	VRD-RA2HD682J	J	6.8k 1/2W Carbon	AA
R206	VRD-MN2BE333J	J	33k 1/8W Carbon Chip	AA
R207	VRD-RA2BE564J	J	560k 1/8W Carbon	AA
R210	VRD-MN2BE104J	J	100k 1/8W Carbon Chip	AA
R211	VRD-MN2BE823J	J	82k 1/8W Carbon Chip	AA
R212	VRD-RA2EE105J	J	1M 1/4W Carbon	AA
R213	VRD-MN2BE681J	J	680 1/8W Carbon Chip	AA
R214	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R215	VRD-MN2BE154J	J	150k 1/8W Carbon Chip	AA
R216	VRD-MN2BE393J	J	39k 1/8W Carbon Chip	AA
R217	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R218	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R219	*See Controls*			
R220	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R223	VRD-MN2BE221J	J	220 1/8W Carbon Chip	AA
R226	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R227	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R228	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R229	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R233	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA
R234	*See Controls*			
R235	VRD-MN2BE222J	J	2.2k 1/8W Carbon Chip	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R236	VRD-MN2BE272J	J	2.7k 1/8W Carbon Chip	AA
R237	VRD-RA2EE332J	J	3.3k 1/4W Carbon	AA
R238	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R239	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R240	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R243	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R301	VRD-MN2BE100J	J	10 1/8W Carbon Chip	AA
R302	VRD-MN2BE100J	J	10 1/8W Carbon Chip	AA
R303	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
⚠ R304	VRG-RL2HB2R2J	J	2.2 1/2W Fuse Resistor	AB
⚠ R305	VRG-RL2HB2R2J	J	2.2 1/2W Fuse Resistor	AB
R306	VRD-MN2BE183J	J	18k 1/8W Carbon Chip	AA
R307	VRD-MN2BE681J	J	680 1/8W Carbon Chip	AA
R308	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
R309	VRD-MN2BE183J	J	18k 1/8W Carbon Chip	AA
R310	VRD-MN2BE681J	J	680 1/8W Carbon Chip	AA
R311	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
⚠ R312	VRG-RF2HB220J	J	22 1/2W Fuse Resistor	AB
R313	VRD-MN2BE824J	J	820k 1/8W Carbon Chip	AA
R314	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R315	VRD-MN2BE822J	J	8.2k 1/8W Carbon Chip	AA
R316	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R317	VRD-MN2BE822J	J	8.2k 1/8W Carbon Chip	AA
R318	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA
R319	VRD-MN2BE822J	J	8.2k 1/8W Carbon Chip	AA
R320	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R321	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R322	VRD-MN2BE224J	J	220k 1/8W Carbon Chip	AA
R323	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R324	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R325	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R326	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R327	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R328	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R329	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R330	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R331	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
R332	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R333	*See Controls*			
R334	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R336	VRD-MN2BE562J	J	5.6k 1/8W Carbon Chip	AA
R337	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R340	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R341	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R342	VRD-MN2BE273J	J	27k 1/8W Carbon Chip	AA
R401	VRD-MN2BE152J	J	1.5k 1/8W Carbon Chip	AA
R403	*See Controls*			
R404	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA
R405	VRD-RA2BE182J	J	1.8k 1/8W Carbon Chip	AA
R406	VRD-MN2BE681J	J	680 1/8W Carbon Chip	AA
R407	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R408	VRD-MN2BE681J	J	680 1/8W Carbon Chip	AA
R409	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R410	VRD-MN2BE563J	J	56k 1/8W Carbon Chip	AA
R411	VRD-MN2BE391J	J	390 1/8W Carbon Chip	AA

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MOTHER UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R412	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R413	VRD-MN2BE222J	J	2.2k 1/8W Carbon Chip	AA
R414	VRD-RA2HD471J	J	470 1/2W Carbon	AA
R415	VRD-RA2EE224J	J	220k 1/4W Carbon	AA
R416	*See Controls*			
R417	VRD-RA2EE824J	J	820k 1/4W Carbon	AA
R418	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R419	VRD-MN2BE272J	J	2.7k 1/8W Carbon Chip	AA
R420	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R421	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R422	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R423	VRD-MN2BE222J	J	2.2k 1/8W Carbon Chip	AA
R424	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R425	VRD-MN2BE152J	J	1.5k 1/8W Carbon Chip	AA
R426	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R427	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R428	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R429	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R430	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R431	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R432	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R433	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R434	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R435	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R437	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R438	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R439	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R442	VRD-MN2BE823J	J	82k 1/8W Carbon Chip	AA
R443	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R444	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R445	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R446	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R447	VRD-MN2BE224J	J	220k 1/8W Carbon Chip	AA
⚠ R449	VRG-RL2HB220J	J	22 1/2W Fuse Resistor	AB
R450	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R451	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
⚠ R452	VRG-RL2HB100J	J	10 1/2W Fuse Resistor	AB
R453	VRD-MN2BE821J	J	820 1/8W Carbon Chip	AA
R454	VRD-MN2BE821J	J	820 1/8W Carbon Chip	AA
R455	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
R456	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R457	VRD-MN2BE151J	J	150 1/8W Carbon Chip	AA
R458	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
⚠ R459	VRG-RL2HB220J	J	22 1/2W Fuse Resistor	AB
R460	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R461	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R462	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R463	VRD-MN2BE750J	J	75 1/8W Carbon Chip	AA
R464	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R465	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R466	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R467	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R468	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R469	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R470	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R471	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R472	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
R473	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
R474	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R475	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R476	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R477	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R478	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R479	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R480	VRD-MN2BE563J	J	56k 1/8W Carbon Chip	AA
R481	VRD-MN2BE563J	J	56k 1/8W Carbon Chip	AA
R482	VRD-MN2BE563J	J	56k 1/8W Carbon Chip	AA
R483	VRD-MN2BE563J	J	56k 1/8W Carbon Chip	AA
R484	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R485	VRD-MN2BE183J	J	18k 1/8W Carbon Chip	AA
R486	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R490	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R491	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R492	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R493	VRD-MN2BE222J	J	2.2k 1/8W Carbon Chip	AA
R498	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R501	VRS-VV3DB101J	J	100 2W Metal Oxide	AA
R502	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R503	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R504	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R505	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R506	VRD-MN2BE683J	J	68k 1/8W Carbon Chip	AA
R507	VRD-RA2HD102J	J	1k 1/2W Carbon	AA
R508	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R509	VRD-MN2BE393J	J	39k 1/8W Carbon Chip	AA
R510	*See Controls*			
R511	VRD-MN2BE333J	J	33k 1/8W Carbon Chip	AA
R512	VRD-MN2BE562J	J	5.6k 1/8W Carbon Chip	AA
R513	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R514	*See Controls*			
R515	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R516	VRD-MN2BE563J	J	56k 1/8W Carbon Chip	AA
R517	VRD-MN2BE273J	J	27k 1/8W Carbon Chip	AA
R518	VRD-MN2BE273J	J	27k 1/8W Carbon Chip	AA
R519	VRD-RA2HD391J	J	390 1/2W Carbon	AA
R520	VRD-RA2HD2R7J	J	2.7 1/2W Carbon	AA
R521	VRD-RA2HD2R7J	J	2.7 1/2W Carbon	AA
R522	VRD-RA2HD2R7J	J	2.7 1/2W Carbon	AA
R523	VRS-VV3DB221J	J	220 2W Metal Oxide	AA
R524	VRS-VV3DB271J	J	270 2W Metal Oxide	AA
R525	VRS-VV3DB821J	J	820 2W Metal Oxide	AA
⚠ R526	VRG-RL2HB470J	J	47 1/2W Fuse Resistor	AB
R527	VRD-MN2BE224J	J	220k 1/8W Carbon Chip	AA
R528	VRD-MN2BE273J	J	27k 1/8W Carbon Chip	AA
R529	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA
R530	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA
R531	VRD-RA2BE223J	J	22k 1/8W Carbon	AA

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MOTHER UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R541	VRD-RA2EE223J	J	22k 1/4W Carbon	AA
R542	VRD-RA2EE223J	J	22k 1/4W Carbon	AA
R543	VRD-RA2EE223J	J	22k 1/4W Carbon	AA
R601	VRD-RA2HD121J	J	120 1/2W Carbon	AA
R602	*See Controls*			
R603	VRD-MN2BE222J	J	2.2k 1/8W Carbon Chip	AA
R604	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R605	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R606	VRD-RA2EE820J	J	82 1/4W Carbon	AA
R607	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R608	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R609	VRD-RU2EE471J	J	470 1/4W Carbon	AA
R610	VRD-RA2HD332J	J	3.3k 1/2W Carbon	AA
R611	VRD-RA2BE273J	J	27k 1/8W Carbon	AA
R612	VRD-MN2BE562J	J	5.6k 1/8W Carbon Chip	AA
R613	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R614	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R615	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R616	VRD-RA2EE564J	J	560k 1/4W Carbon	AA
R617	VRD-RA2EE334J	J	330k 1/4W Carbon	AA
R618	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R620	VRD-RA2HD820J	J	82 1/2W Carbon	AA
R621	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R623	VRD-MN2BE100J	J	10 1/8W Carbon Chip	AA
R625	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R626	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R801	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R802	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R803	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R804	VRD-MN2BE121J	J	120 1/8W Carbon Chip	AA
R805	VRD-RA2HD471J	J	470 1/2W Carbon	AA
R806	VRD-MN2BE121J	J	120 1/8W Carbon Chip	AA
R807	VRD-RA2HD471J	J	470 1/2W Carbon	AA
R808	VRD-MN2BE121J	J	120 1/8W Carbon Chip	AA
R809	VRD-RA2HD471J	J	470 1/2W Carbon	AA
R811	VRD-MN2BE272J	J	2.7k 1/8W Carbon Chip	AA
R812	VRD-MN2BE272J	J	2.7k 1/8W Carbon Chip	AA
R813	VRD-MN2BE562J	J	5.6k 1/8W Carbon Chip	AA
R814	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R815	VRD-MN2BE750J	J	75 1/8W Carbon Chip	AA
R818	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
R819	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R822	VRD-MN2BE273J	J	27k 1/8W Carbon Chip	AA
R823	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R824	VRD-MN2BE122J	J	1.2k 1/8W Carbon Chip	AA
R825	VRD-MN2BE560J	J	56 1/8W Carbon Chip	AA
R1001	VRD-RA2HD101J	J	100 1/2W Carbon	AA
R1002	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
R1003	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R1004	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R1008	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1009	VRD-MN2BE683J	J	68k 1/8W Carbon Chip	AA

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1010	VRD-RA2HD820J	J	82 1/2W Carbon	AA
R1011	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
R1012	VRD-MN2BE683J	J	68k 1/8W Carbon Chip	AA
R1013	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R1014	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R1015	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R1016	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R1017	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R1018	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R1019	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R1020	VRD-MN2BE101J	J	100 1/8W Carbon Chip	AA
R1021	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1022	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1023	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R1024	VRD-MN2BE104J	J	100k 1/8W Carbon Chip	AA
R1025	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1026	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1027	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R1028	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R1029	VRD-MN2BE224J	J	220k 1/8W Carbon Chip	AA
R1030	VRD-RA2EE105J	J	1M 1/4W Carbon	AA
R1031	VRD-MN2BE274J	J	270k 1/8W Carbon Chip	AA
R1032	VRD-MN2BE562J	J	5.6k 1/8W Carbon Chip	AA
R1033	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R1034	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1035	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1036	VRD-MN2BE333J	J	33k 1/8W Carbon Chip	AA
R1037	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R1038	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R1039	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA
R1040	VRD-MN2BE682J	J	6.8k 1/8W Carbon Chip	AA
R1041	VRD-MN2BE822J	J	8.2k 1/8W Carbon Chip	AA
R1042	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA
R1043	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R1044	VRD-MN2BE562J	J	5.6k 1/8W Carbon Chip	AA
R1045	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R1046	VRD-MN2BE822J	J	8.2k 1/8W Carbon Chip	AA
R1047	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R1048	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R1049	VRD-MN2BE222J	J	2.2k 1/8W Carbon Chip	AA
R1050	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA
R1051	VRD-MN2BE273J	J	27k 1/8W Carbon Chip	AA
R1052	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R1053	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R1054	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R1056	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R1058	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R1059	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R1060	VRS-VV3DB153J	J	15k 2W Metal Oxide	AA
R1061	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R1062	VRD-MN2BE333J	J	33k 1/8W Carbon Chip	AA
R1063	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R1064	VRD-MN2BE684J	J	680k 1/8W Carbon Chip	AA
R1065	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R1066	VRD-MN2BE123J	J	12k 1/8W Carbon Chip	AA

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MOTHER UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R1067	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R1068	VRD-MN2BE822J	J	8.2k 1/8W Carbon Chip	AA
R1069	VRD-MN2BE822J	J	8.2k 1/8W Carbon Chip	AA
R1070	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R1071	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R1072	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R1073	VRD-RA2BE681J	J	680 1/8W Carbon	AA
R1074	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R1075	VRD-MN2BE153J	J	15k 1/8W Carbon Chip	AA
R1076	VRD-MN2BE333J	J	33k 1/8W Carbon Chip	AA
R1077	VRD-MN2BE102J	J	1k 1/8W Carbon Chip	AA
R1078	VRD-MN2BE152J	J	1.5k 1/8W Carbon Chip	AA
R1079	VRD-MN2BE182J	J	1.8k 1/8W Carbon Chip	AA
R1080	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R1081	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R1082	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R1083	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R1084	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1085	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R1086	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R1087	VRD-MN2BE822J	J	8.2k 1/8W Carbon Chip	AA
R1088	VRD-MN2BE393J	J	39k 1/8W Carbon Chip	AA
R1089	VRD-RA2BE822J	J	8.2k 1/8W Carbon	AA
R1090	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R1091	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R1093	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1094	VRD-MN2BE392J	J	3.9k 1/8W Carbon Chip	AA
R1095	VRD-MN2BE683J	J	68k 1/8W Carbon Chip	AA
R1096	VRD-MN2BE562J	J	5.6k 1/8W Carbon Chip	AA
R1097	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R1098	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1121	VRS-VV3DB472J	J	4.7k 2W Metal Oxide	AA
R1122	VRS-VV3DB272J	J	2.7k 2W Metal Oxide	AA
R1123	VRD-RA2HD562J	J	5.6k 1/2W Carbon	AA
R1124	VRD-RA2HD151J	J	150 1/2W Carbon	AA
R1125	VRD-MN2BE332J	J	3.3k 1/8W Carbon Chip	AA
R1126	VRD-MN2BE472J	J	4.7k 1/8W Carbon Chip	AA
R1127	VRD-MN2BE223J	J	22k 1/8W Carbon Chip	AA
R1128	VRD-MN2BE563J	J	56k 1/8W Carbon Chip	AA
R1129	VRD-MN2BE333J	J	33k 1/8W Carbon Chip	AA
R1130	VRD-MN2BE333J	J	33k 1/8W Carbon Chip	AA
R1131	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R1133	VRD-RA2HD181J	J	180 1/2W Carbon	AA
R1134	VRD-MN2BE224J	J	220k 1/8W Carbon Chip	AA
R1135	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R1136	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R1137	VRD-MN2BE103J	J	10k 1/8W Carbon Chip	AA
R1138	VRD-MN2BE393J	J	39k 1/8W Carbon Chip	AA
R1139	VRD-MN2BE564J	J	560k 1/8W Carbon Chip	AA
R1150	VRD-MN2BE473J	J	47k 1/8W Carbon Chip	AA
R1151	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R1152	VRD-MN2BE681J	J	680 1/8W Carbon Chip	AA

SWITCHES

Ref. No.	Part No.	★	Description	Code
S401	QSW-B0015CEZZ	J	Service Switch	AC
S501	QSW-B0018CEZZ	J	Vertical Center Adjust.	AD

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
FB1001	RBLN-0036CEZZ	J	Ferrite Bead	AB
⚠ J401	QTANJ0632CEZZ	J	Jack, A/V	AH
⚠ J402	QSOCD0408CEZZ	J	Socket	AG
	QPLGN0213GEZZ	J	Plug 2-pin, (XS) (TD)	AB
	QPLGN0278GEZZ	J	Plug 2-pin, (XV) (TB) (CC) (CP) (CS)	AA
	QPLGN0304CEZZ	J	Plug 3-pin, (AB) (A)	AB
	QPLGN0313GEZZ	J	Plug 3-pin, (TC)	AB
	QPLGN0378GEZZ	J	Plug 3-pin, (SV)	AB
	QPLGN0413GEZZ	J	Plug 4-pin, (S)	AB
	QPLGN0478GEZZ	J	Plug 4-pin, (TA)	AB
	QPLGN0513GEZZ	J	Plug 5-pin, (XA)	AB
	QPLGN0578GEZZ	J	Plug 5-pin, (KY)	AB
	QPLGN0613GEZZ	J	Plug 6-pin, (VO)	AB
	QPLGN0678GEZZ	J	Plug 6-pin, (O)	AB
	QPLGN0878GEZZ	J	Plug 8-pin, (W) (SY)	AC
	QPLGN0913GEZZ	J	Plug 9-pin, (RS)	AB

—— End of PWB-A ——

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DEF UNIT

INTEGRATED CIRCUITS

Ref. No.	Part No.	★	Description	Code
IC601	VHiLM358P//-1	J	LM358P	AC
IC602	VHiLM358P//-1	J	LM358P (29AN1)	AC
⚠ IC701	VHiSTRS6309-1	J		AU
⚠ IC702	RH-FX0012CEZZ	J		AF
IC703	VHiSE120N//-1	J	SE120N	AG
IC2603	VHiTA7812S/-1	J	TA7812S	AD

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
⚠ Q605	VS2SD1910//2E	J	2SD1910	AK
Q611	VS2SC3198-G-1	J	2SC3198 (G) (29AN1)	AA
Q613	VS2SC3198-G-1	J	2SC3198 (G) (29AN1)	AA
Q614	VS2SC3198-G-1	J	2SC3198 (G) (29AN1)	AA
⚠ Q615	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
⚠ Q701	VS2SC3198-G-1	J	2SC3198 (G)	AA
⚠ Q2601	VSMSD1555//1E	J	MSD1555 (25AN1)	AL
⚠ Q2601	VS2SC3886A/1E	J	2SC3886 (A) (29AN1)	AP
Q2602	VS2SC3328Y/1E	J	2SC3328 (Y)	AD
Q2603	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q2604	VS2SC1827//2E	J	2SC1827 (29AN1)	AF

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DEF UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
DIODES				
D607	VHD1SS119//1E	J	1SS119 (29AN1)	AA
D608	VHD1SS119//1E	J	1SS119 (29AN1)	AA
D609	RH-DX0130CEZZ	J		AE
D614	VHD1SS119//1E	J	1SS119 (29AN1)	AA
D615	VHD1SS119//1E	J	1SS119	AA
D616	VHD1SS119//1E	J	1SS119	AA
D617	VHD1SS119//1E	J	1SS119	AA
⚠ D619	VHD1SS119//1E	J	1SS119	AA
⚠ D620	VHD1SS119//1E	J	1SS119	AA
⚠ D621	RH-EX0051CEZZ	J	Zener Diode	AB
⚠ D701	RH-DX0336CEZZ	J		AH
⚠ D707	RH-DX0202CEZZ	J		AD
⚠ D708	VHD1SS119//1E	J	1SS119	AA
⚠ D710	RH-DX0164CEZZ	J		AC
D711	RH-DX0382CEZZ	J		AD
D712	RH-DX0243CEZZ	J		AF
D714	RH-DX0243CEZZ	J		AF
⚠ D715	RH-EX0152CEZZ	J	Zener Diode	AE
D730	RH-DX0027CEZZ	J	(29AN1)	AE
D2601	RH-DX0229CEZZ	J	(29AN1)	AF
D2602	RH-DX0255CEZZ	J	(29AN1)	AC
D2603	RH-DX0062CEZZ	J		AD
D2604	RH-DX0073CEZZ	J		AD
D2605	RH-DX0127CEZZ	J		AC
D2606	RH-DX0130CEZZ	J		AE
⚠ VA701	RH-VX0022CEZZ	J	Varistor	AD
THERMISTORS				
TH601	RH-HZ0006CEZZ	J	Thermistor	AB
TH602	RH-HZ0005CEZZ	J	Thermistor (29AN1)	AB
PACKAGED CIRCUIITS				
⚠ PR701	RMPTP0062CEZZ	J	Positive Coeffcient Thermistor	AH
⚠ R728	RR-DZ0013CEZZ	J	Resistor	AD
COILS AND TRANSFORMERS				
L601	VP-CF390K0000	J	39μH	AB
L602	RCiLZ0797CEZZ	J	Ceramic Filter (25AN1)	AK
L602	RCiLZ0821CEZZ	J	Ceramic Filter (29AN1)	AL
L603	RCiLZ0591CEZZ	J	Ceramic Filter (29AN1)	AF
L604	RCiLZ0699CEZZ	J	Ceramic Filter	AL
L605	RCiLP0087CEZZ	J	Ceramic Filter	AE
L606	RCiLZ0593CEZZ	J	Ceramic Filter	AH
L711	RCiLP0106CEZZ	J	Ceramic Filter	AE
L712	RCiLP0106CEZZ	J	Ceramic Filter	AE
L713	RCiLP0106CEZZ	J	Ceramic Filter	AE

Ref. No.	Part No.	★	Description	Code
COILS AND TRANSFORMERS (Continued)				
⚠ L2701	RCiLF0166CEZZ	J	Ceramic Filter	AQ
T601	RTRNZ0343CEZZ	J	Transformer	AG
⚠ T602	RTRNF1892CEZZ	J	H-Volt Transformer (25AN1)	BD
⚠ T602	RTRNF1896CEZZ	J	H-Volt Transformer (29AN1)	BD
⚠ T2701	RTRNZ0505CEZZ	J	Transformer	BA
CONTROLS				
R632	RVR-M4342GEZZ	J	68k (B) Horiz.-Size (29AN1)	AB
R644	RVR-B5265CEZZ	J	10k (B) Side-Pin (29AN1)	AB
CAPACITORS				
C602	VCKYPA2HB472K	J	4700p 500V Ceramic	AB
C605	VCKYPA1HB102K	J	1000p 50V Ceramic	AA
C608	VCFPPD2DB224J	J	0.22 200V M. Polyester (25AN1)	AE
C608	VCFPPD2DB474J	J	0.47 200V M. Polyester (29AN1)	AE
⚠ C609	VCFPPD3CA562H	J	5600p 1600V M. Polyester (25AN1)	AE
⚠ C609	VCFPPD3CA822H	J	8200p 1600V M. Polyester (29AN1)	AE
C610	VCFPPD3CA472H	J	4700p 1600V M. Polyester (25AN1)	AD
C610	VCFPPD3CA822H	J	8200p 1600V M. Polyester (29AN1)	AE
C611	VCFPPD3CA472H	J	4700p 1600V M. Polyester (29AN1)	AD
C612	VCKYPH3DB561K	J	560p 2000V Ceramic (29AN1)	AC
C613	VCQPSC2JA393K	J	0.039 630V Mylar (29AN1)	AB
C614	VCFYHA1HA104J	J	0.1 50V M. Polyester	AB
C615	VCFPPD2DB474J	J	0.47 200V M. Polyester	AE
⚠ C616	VCFPPC3CA152H	J	1500p 1600V M. Polyester (25AN1)	AD
⚠ C616	VCFPPD3CA272H	J	2700p 1600V M. Polyester (29AN1)	AE
⚠ C617	VCFPPD3CA222H	J	2200p 1600V M. Polyester	AE
C618	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C619	VCEAGA2EW336M	J	33 250V Electrolytic	AD
C620	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C621	VCEAGA1VW108M	J	1000 35V Electrolytic	AD
C622	VCFYHA1HA104J	J	0.1 50V M. Polyester	AB
C623	VCE9RH1HW475K	J	4.7 50V Electrolytic (N.P.) (29AN1)	AF
C624	VCEAGA1EW107M	J	100 25V Electrolytic	AD
C625	VCKYPA1HB822K	J	8200p 50V Ceramic	AA
C631	VCEAGA1HW104M	J	0.1 50V Electrolytic	AA

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DEF UNIT (Continued)

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description	Code
C632	VCQYTA1HM332J	J	3300p 50V Mylar	AA
C633	VCEAGA1HW225M	J	2.2 50V Electrolytic	AB
C634	VCQYTA1HM103J	J	0.01 50V Mylar	AA
C635	VCEAGA1HM335M	J	3.3 50V Electrolytic	AB
C636	VCE9AA1CW106M	J	10 16V Electrolytic (N.P.) (29AN1)	AB
C637	VCEAGA1HW104M	J	0.1 50V Electrolytic	AA
C650	VCEAGA1CW337M	J	330 16V Electrolytic (29AN1)	AC
C652	VCEAGA1EW107M	J	100 25V Electrolytic (29AN1)	AD
C653	RC-EZ0322CEZZ	J	1000 250V Electrolytic	AE
C654	VCQYTA1HM682J	J	6800p 50V Mylar	AB
C655	VCEAAA1HM104T	J	0.1 50V Electrolytic	AB
C656	VCEAGA1CW336M	J	33 16V Electrolytic	AB
C657	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
C658	VCFYSB2EB224K	J	0.22 250V M. Polyester	AD
C659	VCEAGA1HW106M	J	10 50V Electrolytic	AC
C660	VCQYTA1HM333J	J	0.033 50V Mylar	AA
⚠ C661	VCEAGA0JW337M	J	330 6.3V Electrolytic	AB
⚠ C662	VCEAGA1EW477M	J	470 25V Electrolytic	AD
C663	VCEAGA1CW337M	J	330 16V Electrolytic	AC
⚠ C703	RC-EZ0358CEZZ	J	680 400V Electrolytic	AX
⚠ C704	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C705	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C706	VCEAGA1HW227M	J	220 50V Electrolytic	AC
⚠ C707	VCQYTA1HM222J	J	2200p 50V Mylar	AA
⚠ C708	RC-KZ0024CEZZ	J	1000p 2kV Ceramic	AC
⚠ C710	VCSATA1VE106K	J	10 35V Tantalum	AE
⚠ C711	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
⚠ C712	VCEAGA1EW107M	J	100 25V Electrolytic	AD
⚠ C713	VCQPSC2JA333K	J	0.033 630V Mylar	AB
C714	VCKYPH3DB561K	J	560p 2000V Ceramic	AC
⚠ C717	VCFYHA1HA563J	J	0.056 50V M. Polyester	AB
⚠ C719	VCFYHA1HA104J	J	0.1 50V M. Polyester	AB
⚠ C720	RC-KZ0178CEZZ	J	2200p 4kV Ceramic	AD
C722	RC-KZ0024CEZZ	J	1000p 2kV Ceramic	AC
C723	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C725	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C726	RC-EZ0070CEZZ	J	330 160V Electrolytic	AH
C727	RC-EZ0322CEZZ	J	1000 250V Electrolytic	AE
C728	RC-EZ0322CEZZ	J	1000 250V Electrolytic	AE
C730	RC-EZ0069CEZZ	J	220 160V Electrolytic	AG
C731	RC-EZ0322CEZZ	J	1000 250V Electrolytic	AE
C732	RC-EZ0322CEZZ	J	1000 250V Electrolytic	AE
C733	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
⚠ C735	VCFYHA1HA104J	J	0.1 50V M. Polyester	AB
C2601	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2603	VCKYPA2HB221K	J	220p 500V Ceramic	AA
C2604	VCEAGA1EW227M	J	220 25V Electrolytic	AC
C2606	VCFPPC2DB334J	J	0.33 200V M. Polyester (29AN1)	AE
C2607	VCFPPC2DB274J	J	0.27 200V M. Polyester (25AN1)	AE
C2607	VCFPPC2DB334J	J	0.33 200V M. Polyester (29AN1)	AE
⚠ C2701	RC-FZ0010GEZZ	J	0.1 250V M. Polyester	AE
⚠ C2702	VCFYSB2EB224K	J	0.22 250V M. Polyester	AD

RESISTORS

Ref. No.	Part No.	★	Description	Code
R619	VRD-RA2HD331J	J	330 1/2W Carbon	AA
R622	VRD-RA2BE124J	J	120k 1/8W Carbon	AA
R624	VRD-RA2EE125J	J	1.2M 1/4W Carbon	AA
R625	VRD-RA2EE564J	J	560k 1/4W Carbon	AA
R627	VRD-RA2BE564J	J	560k 1/8W Carbon	AA
R628	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
⚠ R631	VRG-RF2EB470J	J	47 1/4W Carbon	AB
R633	VRD-RA2BE333J	J	33k 1/8W Carbon	AA
R634	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R635	VRD-RA2EE103J	J	10k 1/4W Carbon	AA
R636	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R637	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R638	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R639	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R640	VRD-RA2EE473J	J	47k 1/4W Carbon	AA
R641	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R642	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R643	VRD-RA2BE102J	J	1k 1/8W Carbon	AA
R645	VRD-RA2EE152J	J	1.5k 1/4W Carbon	AA
R651	VRD-RA2EE332J	J	3.3k 1/4W Carbon	AA
⚠ R655	VRG-RF2EB470J	J	47 1/4W Carbon (29AN1)	AB
R656	VRD-RA2BE274J	J	270k 1/8W Carbon	AA
R657	VRD-RA2BE274J	J	270k 1/8W Carbon	AA
R658	VRD-RA2BE274J	J	270k 1/8W Carbon	AA
R659	VRD-RA2BE274J	J	270k 1/8W Carbon	AA
R661	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R664	VRD-RA2EE122J	J	1.2k 1/4W Carbon	AA
R665	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R666	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R667	VRD-RA2BE393J	J	39k 1/8W Carbon	AA
R668	VRD-RA2HD102J	J	1k 1/2W Carbon	AA
R669	VRD-RA2HD152J	J	1.5k 1/2W Carbon	AA
R670	VRD-RA2HD152J	J	1.5k 1/2W Carbon	AA
R671	VRS-SU2HB102J	J	1k 1/2W Metal Oxide	AA
R672	VRD-RA2EE393J	J	39k 1/4W Carbon	AA
R673	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R674	VRD-RA2HD102J	J	1k 1/2W Carbon	AA
R675	VRD-RA2EE103J	J	10k 1/4W Carbon	AA
R676	VRD-RA2EE101J	J	100 1/4W Carbon	AA
R677	VRN-VV3LB1R8J	J	1.8 3W Metal Film (25AN1)	AC
R677	VRN-VV3LB2R2J	J	2.2 3W Metal Film (29AN1)	AC

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DEF UNIT (Continued)

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R678	VRS-VV3LB472J	J	4.7k 3W Metal Oxide	AB
R682	VRD-RA2BE123J	J	12k 1/8W Carbon	AA
R683	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R684	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R685	VRD-RA2EE182J	J	1.8k 1/4W Carbon	AA
R686	VRD-RA2EE101J	J	100 1/4W Carbon	AA
⚠ R691	VRN-VV3DB1R0J	J	1 2W Metal Film	AB
⚠ R692	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
⚠ R693	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R694	VRS-VV3DB220J	J	22 2W Metal Oxide	AA
⚠ R701	RR-WZ0139CEZZ	J	2.2 15W Cement	AE
⚠ R702	RR-WZ0139CEZZ	J	2.2 15W Cement	AE
⚠ R703	VRD-RA2HD391J	J	390 1/2W Carbon	AA
⚠ R705	VRD-RA2HD564J	J	560k 1/2W Carbon	AA
⚠ R710	RR-WZ0140CEZZ	J	0.22 3W Cement	AC
⚠ R711	VRW-KX3HC180K	J	18 5W Cement	AC
⚠ R713	VRD-RA2HD154J	J	150k 1/2W Carbon	AA
⚠ R714	VRD-RA2HD154J	J	150k 1/2W Carbon	AA
⚠ R717	VRS-SV3LB333J	J	33k 3W Metal Oxide	AC
⚠ R718	VRS-SV3LB390J	J	39 3W Metal Oxide	AC
⚠ R722	VRD-RA2HD821J	J	820 1/2W Carbon	AA
⚠ R724	VRC-UA2HG825M	J	8.2M 1/2W Solid	AA
⚠ R725	VRC-UA2HG825M	J	8.2M 1/2W Solid	AA
R726	VRD-RA2HD223J	J	22k 1/2W Carbon	AA
R727	VRN-VV3DB1R2J	J	1.2 2W Metal Film	AA
⚠ R729	VRD-RA2HD471J	J	470 1/2W Carbon	AA
⚠ R730	VRD-RA2HD564J	J	560k 1/2W Carbon	AA
R731	VRD-RA2HD470J	J	47 1/2W Carbon	AA
⚠ R733	VRG-RF2EB1R0J	J	1 1/4W Fuse Resistor	AB
⚠ R735	VRD-RA2HD121J	J	120 1/2W Carbon	AA
R736	VRN-KT3LB1R5J	J	1.5 3W Ceramic (29AN1)	AC
R740	VRN-VV3DB1R2J	J	1.2 2W Metal Film	AA
R2601	VRD-RA2HD470J	J	47 1/2W Carbon	AA
R2602	VRD-RA2HD820J	J	82 1/2W Carbon	AA
R2603	VRW-KX3HC150K	J	15 5W Cement (29AN1)	AD
R2603	VRW-KX3HC470K	J	47 5W Cement (25AN1)	AC
R2604	VRD-RA2EE221J	J	220 1/4W Carbon	AA
R2605	VRD-RA2EE471J	J	470 1/4W Carbon	AA
R2606	VRD-RA2EE102J	J	1k 1/4W Carbon	AA
R2607	VRD-RA2BE101J	J	100 1/8W Carbon	AA
R2608	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
R2609	VRS-VV3DB561J	J	560 2W Metal Oxide (29AN1)	AA
R2610	VRN-VV3DB4R7J	J	4.7 2W Metal Film (29AN1)	AB
R2611	VRD-RA2EE222J	J	2.2k 1/4W Carbon	AA
⚠ R2612	VRG-RF2HB220J	J	22 1/2W Fuse Resistor	AB
R2613	VRS-VV3DB680J	J	68 2W Metal Oxide	AA
R2614	RR-WZ0141CEZZ	J	3.3 15W Cement	AE

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R2615	VRS-VV3DB470J	J	47 2W Metal Oxide	AA
⚠ R2616	VRG-RF2HB1R0J	J	1 1/2W Fuse Resistor	AA
⚠ R2617	VRG-RF2HB3R3J	J	3.3 1/2W Fuse Resistor	AB
R2618	VRD-RA2EE471J	J	470 1/4W Carbon	AA
R2619	VRS-VV3DB561J	J	560 2W Metal Oxide (25AN1)	AA
R2620	VRD-RA2EE560J	J	56 1/4W Carbon	AA
R2621	VRD-RA2BE153J	J	15k 1/8W Carbon	AA
R2623	VRD-RA2EE564J	J	560k 1/4W Carbon	AA
R2626	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R2680	VRD-RA2EE471J	J	470 1/4W Carbon	AA
R2681	VRD-RA2BE123J	J	12k 1/8W Carbon	AA

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
⚠ F701	QFS-C5022CEZZ	J	Fuse	AD
FB601	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB602	RBLN-0010CEZZ	J	Ferrite Bead	AC
FB603	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB701	RBLN-0010CEZZ	J	Ferrite Bead	AC
FB702	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB704	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB705	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB707	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB708	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB709	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB711	RBLN-0037CEZZ	J	Ferrite Bead	AB
FB712	RBLN-0037CEZZ	J	Ferrite Bead	AB
⚠	QPLGN0207CEZZ	J	Plug 2-pin, (G)	AA
	QPLGN0213GEZZ	J	Plug 2-pin, (XV) (XS)	AB
⚠	QPLGN0304CEZZ	J	Plug 3-pin, (AB) (AC) (AD)	AB
	QPLGN0313GEZZ	J	Plug 3-pin, (H)	AB
	QPLGN0513GEZZ	J	Plug 5-pin, (XA)	AB
	QPLGN0527CEZZ	J	Plug 5-pin, (K)	AC
	QPLGN0613GEZZ	J	Plug 6-pin, (VO)	AB
	QPLGN0878GEZZ	J	Plug 8-pin, (W)	AC

—— End of PWB-B ——

PWB-C DUNTK6802DE20/21
CRT SOCKET UNIT

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
⚠Q2801	VS2SC4544LB1E	J	2SC4544LB	AD
⚠Q2802	VS2SC4544LB1E	J	2SC4544LB	AD
⚠Q2803	VS2SC4544LB1E	J	2SC4544LB	AD

COILS

Ref. No.	Part No.	★	Description	Code
L2801	VP-2K470K000K	J	47μH	AB
L2802	VP-2K470K000K	J	47μH	AB
L2803	VP-2K470K000K	J	47μH	AB

CONTROLS

Ref. No.	Part No.	★	Description	Code
R2811	RVR-B5588CEZZ	J	500 (B) Green Drive	AB
R2812	RVR-B5588CEZZ	J	500 (B) Blue Drive	AB
R2816	RVR-B5468CEZZ	J	1k (B) Red Bias	AC
R2817	RVR-B5468CEZZ	J	1k (B) Green Bias	AC
R2818	RVR-B5468CEZZ	J	1k (B) Blue Bias	AC

CAPACITORS

Ref. No.	Part No.	★	Description	Code
C2801	VCKYAT1HB151K	J	150p 50V Ceramic	AA
C2802	VCKYPA1HB151K	J	150p 50V Ceramic	AA
C2803	VCKYPA1HB151K	J	150p 50V Ceramic	AA
C2804	VCKYAT1HB561K	J	560p 50V Ceramic	AA
C2805	VCKYAT1HB681K	J	680p 50V Ceramic	AA
C2806	VCKYAT1HB821K	J	820p 50V Ceramic	AA
C2807	VCEAGA2EW106M	J	10 250V Electrolytic	AC
⚠C2809	RC-KZ0029CEZZ	J	0.01 2kV Ceramic	AC
C2810	VCKYPA1HB561K	J	560p 50V Ceramic	AA

RESISTORS

Ref. No.	Part No.	★	Description	Code
R2801	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R2802	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R2803	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R2804	VRD-RA2BE270J	J	27 1/8W Carbon	AA
R2805	VRD-RA2BE270J	J	27 1/8W Carbon	AA
R2806	VRD-RA2BE270J	J	27 1/8W Carbon	AA
R2807	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R2808	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R2809	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R2810	VRD-RA2BE151J	J	150 1/8W Carbon	AA
R2811	*See Controls*			
R2812	*See Controls*			
R2813	VRD-RA2BE391J	J	390 1/8W Carbon	AA
R2814	VRD-RA2BE391J	J	390 1/8W Carbon	AA
R2815	VRD-RA2BE391J	J	390 1/8W Carbon	AA
R2816	*See Controls*			

RESISTORS (Continued)

Ref. No.	Part No.	★	Description	Code
R2817	*See Controls*			
R2818	*See Controls*			
R2819	VRS-VW3DB153J	J	15k 2W Metal Oxide (25AN1)	AA
R2819	VRS-VW3DB183J	J	18k 2W Metal Oxide (29AN1)	AA
R2820	VRS-VW3DB153J	J	15k 2W Metal Oxide (25AN1)	AA
R2820	VRS-VW3DB183J	J	18k 2W Metal Oxide (29AN1)	AA
R2821	VRS-VW3DB153J	J	15k 2W Metal Oxide (25AN1)	AA
R2821	VRS-VW3DB183J	J	18k 2W Metal Oxide (29AN1)	AA
R2822	VRC-MA2HG224M	J	220k 1/2W Solid	AA
R2823	VRC-MA2HG102M	J	1k 1/2W Solid	AA
R2824	VRC-MA2HG102M	J	1k 1/2W Solid	AA
R2825	VRC-MA2HG102M	J	1k 1/2W Solid	AA
R2826	VRS-VW3DB183J	J	18k 2W Metal Oxide	AA
R2827	VRS-VW3DB183J	J	18k 2W Metal Oxide	AA
R2828	VRS-VW3DB183J	J	18k 2W Metal Oxide	AA

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
	QPLGN0313GEZZ	J	Plug 3-pin, (H)	AB
	QPLGN0578GEZZ	J	Plug 5-pin, (KY)	AB
⚠	QSOCV0919CEZZ	J	CRT Socket	AH

—— End of PWB-C ——

Ref. No.	Part No.	★	Description	Code

PWB-D DUNTK7834DE01 DUNTK7837DE01
LED UNIT

DIODES

D1701	RH-PX0274CEZZ	J	Photodiode (29AN1)	AC
D1701	RH-PX0291CEZZ	J	Photodiode (25AN1)	AC
D1702	RH-PX0326CEZZ	J	Photodiode (29AN1)	AC
D1703	RH-PX0274CEZZ	J	Photodiode	AC
D1704	RH-PX0274CEZZ	J	Photodiode	AC

CAPACITORS

C1701	VCKYD41CY103N	J	0.01	16V	Ceramic	AA
C1702	VCEAGA0JW107M	J	100	6.3V	Electrolytic	AB

RESISTORS

R1701	VRD-RA2EE101J	J	100	1/4W	Carbon	AA
R1702	VRD-RA2EE101J	J	100	1/4W	Carbon	AA
R1703	VRD-RA2EE272J	J	2.7k	1/4W	Carbon	AA
R1704	VRD-RA2EE272J	J	2.7k	1/4W	Carbon	AA
R1705	VRD-RA2HD821J	J	820	1/2W	Carbon	AA
R1706	VRD-RA2EE272J	J	2.7k	1/4W	Carbon	AA

SWITCH

⚠S1701	QSW-P0566CEZZ	J	Stand-By Switch	AL

MISCELLANEOUS PARTS

⚠	QPLGN0434GEZZ	J	Plug 4-pin, (AA)	AE
	QPLGN0978GEZZ	J	Plug 9-pin, (O)	AC
	RRMCU0195CEZZ	J	Remote Control Reciever	AK

—— End of PWB-D ——

PWB-E DUNTK7833DE01 DUNTK7836DE01
CONTROL UNIT

SWITCHS

⚠S1711	QSW-K0095CEZZ	J	Stand-By	AB
⚠S1712	QSW-K0095CEZZ	J	Channel Up	AB
⚠S1713	QSW-K0095CEZZ	J	Channel Down	AB
⚠S1714	QSW-K0095CEZZ	J	Vol-Up	AB
⚠S1715	QSW-K0095CEZZ	J	Vol-Down	AB
⚠S1716	QSW-K0095CEZZ	J	P-Mode	AB
⚠S1717	QSW-K0095CEZZ	J	P-Up	AB
⚠S1718	QSW-K0095CEZZ	J	P-Down	AB
⚠S1721	QSW-K0105CEZZ	J	Fine-Up, Fine-Down, Skip, System, P-Tone, Blue-Back, Surround, Auto-Up, Auto-Down, Preset	AP

MISCELLANEOUS PARTS

	QPLGN0278GEZZ	J	Plug 2-pin, (TB)	AA
	QPLGN0913GEZZ	J	Plug 9-pin, (RS) (T)	AB

—— End of PWB-E ——

PWB-F DUNTK7944DE01
S-MUTE UNIT

NOTE: The parts of the S-MUTE unit will be listed in the PWB-E Control unit as from the September, 1992 production.

TRANSISTOR

Q2301	VS2SC3198-G-1	J	2SC3198(G)	AA

DIODES

D2301	VHD1SS119//1E	J	1SS119	AA
D2302	VHD1SS119//1E	J	1SS119	AA
D2303	RH-EX0153GEZZ	J	Zener Diode, 9.1V	AB

CAPACITORS

C2301	VCKYD41CY103N	J	0.01	16V	Ceramic	AA
C2302	VCEAGA1CW106M	J	10	16V	Electrolytic	AA

RESISTORS

R2301	VRD-RA2HD102J	J	1k	1/2W	Carbon	AA
R2302	VRD-RA2BE470J	J	47	1/8W	Carbon	AA

MISCELLANEOUS PART

	QPLGN0478GEZZ	J	Plug 4-pin, (SS)	AB

—— End of PWB-F ——

PWM-A DUNTK6803DE05/06
IF UNIT

INTEGRATED CIRCUITS

Ref. No.	Part No.	★	Description	Code
IC2001	VHiLA7555//-1	J	LA7555	AM
IC2002	VHiTA8710S/-1	J	TA8710S	AL

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q2001	VS2SC1906//1E	J	2SC1906	AC
Q2002	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q2003	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q2004	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q2005	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q2006	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q2007	VS2SC3399//-1	J	2SC3399	AB
Q2008	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q2010	VS2SC3399//-1	J	2SC3399	AB

DIODES

Ref. No.	Part No.	★	Description	Code
D2001	VHD1SS119//1E	J	1SS119	AA
D2002	VHD1SS119//1E	J	1SS119	AA
D2003	VHD1SS119//1E	J	1SS119	AA
D2004	VHD1SS119//1E	J	1SS119	AA
D2005	RH-EX0440CEZZ	J	Zener Diode	AA
D2006	VHD1SS119//1E	J	1SS119	AA
D2007	VHD1SS119//1E	J	1SS119	AA

COILS AND TRANSFORMERS

Ref. No.	Part No.	★	Description	Code
CF2001	RFiLC0205CEZZ	J	Ceramic Filter	AD
CF2002	RFiLC0078GEZZ	J	Ceramic Filter	AD
CF2003	RFiLC0143CEZZ	J	Ceramic Filter	AD
CF2004	RFiLC0144CEZZ	J	Ceramic Filter	AD
CF2005	RFiLC0145CEZZ	J	Ceramic Filter	AE
CF2006	RFiLC0174CEZZ	J	Ceramic Filter	AD
CF2007	RFiLA0050CEZZ	J	Ceramic Filter	AC
CF2008	RFiLC0084CEZZ	J	Ceramic Filter	AF
L2001	VP-XF1R0K0000	J	1μH	AB
L2004	VP-XF220K0000	J	22μH	AB
L2005	VP-XF100K0000	J	10μH	AB
SF2001	RFiLC0232CEZZ	J	Filter	AN
T2001	RCiLi0543CEZZ	J		AD
T2002	RCiLD0199CEZZ	J		AD
T2003	RCiLD0096CEZZ	J		AE

CAPACITORS

Ref. No.	Part No.	★	Description	Code
C2001	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2002	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2003	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA

CAPACITORS (Continued)

Ref. No.	Part No.	★	Description	Code
C2004	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2005	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2006	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2007	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C2008	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2009	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2010	VCEAGA1HW474M	J	0.47 50V Electrolytic	AA
C2011	VCFYHA1HA683J	J	0.06850V M. Ployester	AB
C2012	VCCCPA1HH9R0D	J	9p 50V Ceramic	AA
C2013	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2014	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C2015	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2016	VCEAGA1HW474M	J	0.47 50V Electrolytic	AA
C2017	VCEAGA1CW476M	J	47 16V Electrolytic	AB
C2018	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2019	VCKYD41CY103N	J	0.01 16V Ceramic	AA
C2020	VCQYTA1HM103J	J	0.01 50V Mylar	AA
C2021	VCQYTA1HM123J	J	0.01250V Mylar	AA
C2022	VCE9AA1CW106M	J	10 16V Electrolytic (N.P)	AB
C2023	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2024	VCEAGA1CW106M	J	10 16V Electrolytic	AA
C2025	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2026	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2027	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C2028	VCKYPA1HB471K	J	470p 50V Ceramic	AA
C2029	VCKYPA1HB471K	J	470p 50V Ceramic	AA
C2030	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C2031	VCCCPA1HH680J	J	68p 50V Ceramic	AA
C2032	VCKYD41CY103N	J	0.01 16V Ceramic	AA
C2033	VCEAGA1CW107M	J	100 16V Electrolytic	AB
C2034	VCKYD41CY103N	J	0.01 16V Ceramic	AA

RESISTORS

Ref. No.	Part No.	★	Description	Code
R2001	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R2002	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R2003	VRD-RA2BE680J	J	68 1/8W Carbon	AA
R2004	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R2005	VRD-RA2HD221J	J	220 1/2W Carbon	AA
R2006	VRD-RA2EE561J	J	560 1/4W Carbon	AA
R2007	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2008	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2009	VRD-RA2EE561J	J	560 1/4W Carbon	AA
R2010	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2011	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2012	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2013	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R2014	VRD-RA2BE122J	J	1.2k 1/8W Carbon	AA
R2015	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R2016	VRD-RA2BE824J	J	820k1/8W Carbon	AA
R2017	VRD-RA2BE332J	J	3.3k 1/8W Carbon	AA
R2018	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R2019	VRD-RA2BE151J	J	150 1/8W Carbon	AA

Ref. No.	Part No.	★	Description	Code

PWM-A DUNTK6803DE05/06
IF UNIT (Continued)

RESISTORS (Continued)

R2020	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2021	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R2022	VRD-RA2HD471J	J	470	1/2W	Carbon	AA
⚠ R2023	VRG-RF2EB220J	J	22	1/4W	Fuse Resistor	AB
R2024	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
R2025	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
R2026	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2027	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2028	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2029	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2030	VRD-RA2BE683J	J	68k	1/8W	Carbon	AA
R2031	VRD-RA2BE683J	J	68k	1/8W	Carbon	AA
R2032	VRD-RA2BE183J	J	18k	1/8W	Carbon	AA
R2033	VRD-RA2BE683J	J	68k	1/8W	Carbon	AA
R2034	VRD-RA2BE683J	J	68k	1/8W	Carbon	AA
R2036	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2038	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
R2039	VRD-RA2BE223J	J	22k	1/8W	Carbon	AA
R2040	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2041	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2042	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2043	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2044	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R2045	VRD-RA2EE105J	J	1M	1/4W	Carbon	AA
R2046	VRD-RA2BE472J	J	4.7k	1/8W	Carbon	AA
R2047	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R2048	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
R2049	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R2050	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA

MISCELLANEOUS PARTS

	QPLGZ0607GEZZ	J	Plug 6-pin, (SH)	AC
	QPLGZ0707GEZZ	J	Plug 7-pin, (IF)	AB

—— End of PWM-A ——

Ref. No.	Part No.	★	Description	Code

PWM-B DUNTK6551DE11/12
AV UNIT

INTEGRATED CIRCUIT

IC1401	VHiTA8742//-1	J	TA8742	AN

TRANSISTORS

Q1301	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q1302	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q1303	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q1304	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q1401	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1402	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1403	VS2SC3198-G-1	J	2SC3198 (G)	AA
Q1404	VS2SC3399//-1	J	2SC3399	AB
Q1405	VS2SC3399//-1	J	2SC3399	AB
Q1406	VS2SA1266-Y-1	J	2SA1266 (Y)	AA
Q1407	VS2SA1266-Y-1	J	2SA1266 (Y)	AA

DIODES

D1301	VHD1SS119//1E	J	1SS119	AA
D1302	VHD1SS119//1E	J	1SS119	AA
D1303	VHD1SS119//1E	J	1SS119	AA
D1304	VHD1SS119//1E	J	1SS119	AA
D1305	VHD1SS119//1E	J	1SS119	AA
D1402	VHD1SS119//1E	J	1SS119	AA
D1403	VHD1SS119//1E	J	1SS119	AA
D1404	VHD1SS119//1E	J	1SS119	AA
D1405	VHD1SS119//1E	J	1SS119	AA
D1406	VHD1SS119//1E	J	1SS119	AA

COILS AND TRANSFORMERS

CF1401	RFiLC0013CEZZ	J	Ceramic Filter	AE
L1401	VP-DF150K0000	J	Coil, 15μH	AB
L1402	VP-DF120K0000	J	Coil, 12μH	AB

CAPACITORS

C1301	VCEAGA1HW475M	J	4.7	50V	Electrolytic	AB
C1302	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C1303	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C1304	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C1305	VCKYD41HB101K	J	100p	50V	Ceramic	AA
C1306	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C1307	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C1308	VCCSPA1HL101J	J	100p	50V	Ceramic	AA
C1309	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C1401	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1402	VCCCPA1HH181J	J	180p	50V	Ceramic	AA
C1403	VCCCPA1HH181J	J	180p	50V	Ceramic	AA
C1405	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C1406	VCCCPA1HH820J	J	82p	50V	Ceramic	AA

Ref. No.	Part No.	★	Description	Code

PWM-B DUNTK6551DE11/12

AV UNIT (Continued)

CAPACITORS (Continued)

C1407	VCE9AA1HW105M	J	1	50V	Electrolytic (N.P.)	AB
C1408	VCE9AA1HW105M	J	1	50V	Electrolytic (N.P.)	AB
C1410	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1411	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1412	VCEAGA1CW477M	J	470	16V	Electrolytic	AC
C1413	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C1414	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1415	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1416	VCEAGA1CW107M	J	100	16V	Electrolytic	AB
C1417	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1418	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA

RESISTORS

R1301	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1304	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1305	VRD-RA2EE562J	J	5.6k	1/4W	Carbon	AA
R1306	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1307	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1308	VRD-RA2EE562J	J	5.6k	1/4W	Carbon	AA
R1309	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1310	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1311	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1312	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R1313	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R1314	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R1315	VRD-RA2BE183J	J	18k	1/8W	Carbon	AA
R1316	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1317	VRD-RA2EE152J	J	1.5k	1/4W	Carbon	AA
R1318	VRD-RU2EE681J	J	680	1/4W	Carbon	AA
R1319	VRD-RA2BE104J	J	100k	1/8W	Carbon	AA
R1322	VRD-RA2EE152J	J	1.5k	1/4W	Carbon	AA
R1323	VRD-RA2BE104J	J	100k	1/8W	Carbon	AA
R1324	VRD-RA2EE681J	J	680	1/4W	Carbon	AA
R1325	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R1326	VRD-RA2BE183J	J	18k	1/8W	Carbon	AA
R1327	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1328	VRD-RA2BE393J	J	39k	1/8W	Carbon	AA
⚠ R1401	VRG-RF2EB100J	J	10	1/4W	Fuse Resistor	AB
R1402	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1403	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1404	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R1405	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R1406	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R1407	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R1408	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA
R1409	VRD-RA2EE561J	J	560	1/4W	Carbon	AA
R1410	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R1411	VRD-RA2BE562J	J	5.6k	1/8W	Carbon	AA

Ref. No.	Part No.	★	Description	Code

RESISTORS (Continued)

R1412	VRD-RA2BE681J	J	680	1/8W	Carbon	AA
R1413	VRD-RA2BE821J	J	820	1/8W	Carbon	AA
R1414	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1415	VRD-RA2EE331J	J	330	1/4W	Carbon	AA
R1416	VRD-RA2EE221J	J	220	1/4W	Carbon	AA
R1418	VRD-RA2BE331J	J	330	1/8W	Carbon	AA
R1419	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1421	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
⚠ R1422	VRG-RF2EB100J	J	10	1/4W	Fuse Resistor	AB
R1425	VRD-RA2HD471J	J	470	1/2W	Carbon	AA
R1426	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R1427	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
⚠ R1428	VRG-RF2EB100J	J	10	1/4W	Fuse Resistor	AB
⚠ R1429	VRG-RF2EB100J	J	10	1/4W	Fuse Resistor	AB
R1430	VRD-RA2HD221J	J	220	1/2W	Carbon	AA
R1431	VRD-RA2EE750J	J	75	1/4W	Carbon	AA
R1432	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R1433	VRD-RA2EE750J	J	75	1/4W	Carbon	AA
R1434	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R1435	VRD-RA2BE473J	J	47k	1/8W	Carbon	AA
R1440	VRD-RA2EE102J	J	1	1/4W	Carbon	AA

MISCELLANEOUS PARTS

	QPLGN0562CEZZ	J	Plug 5-pin, (V1) (V2)	AB
	QPLGN0762CEZZ	J	Plug 7-pin, (V3)	AB
	QPLGN1062CEZZ	J	Plug 10-pin, (V4)	AC

—— End of PWM-B ——

PWM-C DUNTK6547DE09/10

VCJ UNIT

INTEGRATED CIRCUIT

IC1801	RH-iX0969CEN1	J	TA8659AN	BA

TRANSISTOR

Q2401	VS2SA1266-Y-1	J	2SA1266 (Y)	AA

DIODES

D1601	RH-EX0395GEZZ	J	Zener Diode	AA
D1602	RH-EX0041TAZZ	J	Zener Diode	AC
D1603	RH-EX0384GEZZ	J	Zener Diode	AA
D1801	RH-EX0395GEZZ	J	Zener Diode	AA

—— End of PWM-C ——

PWM-C DUNTK6547DE09/10

VCJ UNIT (Continued)

Ref. No.	Part No.	★	Description	Code

PACKAGED CIRCUITS

X1801	RCRSB0002CEZZ	J	Crystal	AM
X1802	RCRSB0005CEZZ	J	Crystal	AN

COIL AND TRANSFORMERS

CF1601	RFiLA0005CEZZ	J	Ceramic Filter	AE
DL1801	RCiLZ0475CEZZ	J	Coil	AP
DL2401	RCiLZ0629CEZZ	J	Coil	AG
L1801	VP-DF8R2K0000	J	8.2μH	AB
L2401	VP-MK390K0000	J	39μH	AB
T1801	RCiLZ0511CEZZ	J	Coil	AD
T1901	RCiLi0435CEZZ	J	IF Coil	AE
T1902	RCiLi0435CEZZ	J	IF Coil	AE
T1903	RCiLi0364CEZZ	J	IF Coil	AD
T1904	RCiLi0435CEZZ	J	IF Coil	AE

CONTROLS

R1804	RVR-B5266CEZZ	J	20k (B) Sub-Color	AB
R1805	RVR-B5265CEZZ	J	10k (B) Sub-Hue.	AB
R1810	RVR-B5261CEZZ	J	1k (B) DL-Amp	AB

CAPACITORS

C1601	VCEAGA1CW227M	J	220	16V	Electrolytic	AC
C1602	VCQYTA1HM223J	J	0.022	50V	Mylar	AA
C1603	VCEAGA1HW225M	J	2.2	50V	Electrolytic	AB
C1604	VCQYTA1HM223J	J	0.022	50V	Mylar	AA
C1605	VCCCPA1HH121J	J	120p	50V	Ceramic	AA
C1606	VCCCPA1HH101J	J	100p	50V	Ceramic	AA
C1608	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C1611	VCEAGA0JW107M	J	100	6.3V	Electrolytic	AB
C1612	VCKYD41CY103N	J	0.01	16V	Ceramic	AA
C1801	VCFYHA1HA104J	J	0.1	50V	M. Polyester	AB
C1804	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C1805	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1806	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C1807	VCKYD41CY103N	J	0.01	16V	Ceramic	AA
C1808	VCKYD41CY103N	J	0.01	16V	Ceramic	AA
C1812	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1813	VCFYHA1HA563J	J	0.056	50V	M. Polyester	AB
C1814	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1815	VCE9AA1HW105M	J	1	50V	Electrolytic (N.P)	AB
C1816	VCQYTA1HM103J	J	0.01	50V	Mylar	AA
C1817	VCCCPA1HH220J	J	22p	50V	Ceramic	AA
C1818	VCCCPA1HH330J	J	33p	50V	Ceramic	AA
C1819	VCCCPA1HH220J	J	22p	50V	Ceramic	AA
C1820	VCCCPA1HH150J	J	15p	50V	Ceramic	AA

Ref. No.	Part No.	★	Description	Code

CAPACITORS (Continued)

C1821	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C1822	VCFYHA1HA563J	J	0.056	50V	M. Polyester	AB
C1901	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C1902	VCCSPA1HL181J	J	180p	50V	Ceramic	AA
C1903	VCEAGA1HW474M	J	0.47	50V	Electrolytic	AA
C1904	VCCSPA1HL181J	J	180p	50V	Ceramic	AA
C1905	VCCSPA1HL181J	J	180p	50V	Ceramic	AA
C1906	VCCSPA1HL151J	J	150p	50V	Ceramic	AA
C1907	VCCCPA1HH390J	J	39p	50V	Ceramic	AA
C1908	VCCCPA1HH180J	J	18p	50V	Ceramic	AA
C1909	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C1910	VCCCPA1HH151J	J	150p	50V	Ceramic	AA
C1911	VCCCD11HH220J	J	22p	50V	Ceramic	AA
C1912	VCFYHA1HA563J	J	0.056	50V	M. Polyester	AB
C1913	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2401	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2402	VCEAGA1CW477M	J	470	16V	Electrolytic	AC
C2403	VCEAGA1CW476M	J	47	16V	Electrolytic	AB
C2404	VCEAGA1CW227M	J	220	16V	Electrolytic	AC
C2405	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2406	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2407	VCEAGA1HW105M	J	1	50V	Electrolytic	AC
C2408	VCCCPA1HH560J	J	56p	50V	Ceramic	AA
C2409	VCCCPA1HH101J	J	100p	50V	Ceramic	AA
C2410	VCEAGA1CW106M	J	10	16V	Electrolytic	AA
C2411	VCEAAA1HW224T	J	0.22	50V	Electrolytic	AB
C2412	VCEAAA1HW224T	J	0.22	50V	Electrolytic	AB
C2413	VCEAAA1HW224T	J	0.22	50V	Electrolytic	AB
C2414	VCKYPA1HF103Z	J	0.01	50V	Ceramic	AA
C2418	VCEAGA1CW106M	J	10	16V	Electrolytic	AA

RESISTORS

R1601	VRD-RA2BE102J	J	1k	1/8W	Carbon AA
R1602	VRD-RA2BE471J	J	470	1/8W	Carbon AA
R1603	VRD-RA2BE332J	J	3.3k	1/8W	Carbon AA
R1604	VRD-RA2BE333J	J	33k	1/8W	Carbon AA
R1605	VRD-RA2BE154J	J	150k	1/8W	Carbon AA
R1606	VRD-RA2BE471J	J	470	1/8W	Carbon AA
R1609	VRD-RA2BE563J	J	56k	1/8W	Carbon AA
R1610	VRD-RA2BE102J	J	1k	1/8W	Carbon AA
R1611	VRD-RA2BE223J	J	22k	1/8W	Carbon AA
R1801	VRD-RA2BE682J	J	6.8k	1/8W	Carbon AA
R1802	VRD-RA2BE102J	J	1k	1/8W	Carbon AA
R1803	VRD-RA2BE102J	J	1k	1/8W	Carbon AA
R1804	*See Controls*				
R1805	*See Controls*				
R1806	VRD-RA2BE102J	J	1k	1/8W	Carbon AA
R1807	VRD-RA2BE104J	J	100k	1/8W	Carbon AA
R1808	VRD-RA2BE102J	J	1k	1/8W	Carbon AA
R1809	VRD-RA2BE391J	J	390	1/8W	Carbon AA
R1810	*See Controls*				
R1811	VRD-RA2BE222J	J	2.2k	1/8W	Carbon AA
R1812	VRD-RA2BE334J	J	330k	1/8W	Carbon AA

Ref. No.	Part No.	★	Description	Code

PWM-C DUNTK6547DE09/10
VCJ UNIT (Continued)

RESISTORS (Continued)

R1813	VRD-RA2BE153J	J	15k	1/8W	Carbon	AA
R1816	VRD-RA2BE333J	J	33k	1/8W	Carbon	AA
R1817	VRD-RA2EE475J	J	4.7M	1/4W	Carbon	AA
R1820	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R1821	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R1822	VRD-RA2EE475J	J	4.7M	1/4W	Carbon	AA
R1823	VRD-RA2BE332J	J	3.3k	1/8W	Carbon	AA
R1824	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1825	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1826	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1827	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1901	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R1902	VRD-RA2BE822J	J	8.2k	1/8W	Carbon	AA
R1903	VRD-RA2BE561J	J	560	1/8W	Carbon	AA
R1904	VRD-RA2BE822J	J	8.2k	1/8W	Carbon	AA
R1905	VRD-RA2BE102J	J	1k	1/8W	Carbon	AA
R1906	VRD-RA2BE681J	J	680	1/8W	Carbon	AA
R1907	VRD-RA2BE102J	J	1.0k	1/8W	Carbon	AA
R1909	VRD-RA2EE475J	J	4.7M	1/4W	Carbon	AA
R1911	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2402	VRD-RA2BE182J	J	1.8k	1/8W	Carbon	AA
R2403	VRD-RA2BE222J	J	2.2k	1/8W	Carbon	AA
R2404	VRD-RA2BE681J	J	680	1/8W	Carbon	AA
R2405	VRD-RA2BE823J	J	82k	1/8W	Carbon	AA
R2406	VRD-RA2BE154J	J	150k	1/8W	Carbon	AA
R2407	VRD-RA2BE103J	J	10k	1/8W	Carbon	AA
R2408	VRD-RA2BE152J	J	1.5k	1/8W	Carbon	AA
R2409	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R2410	VRD-RA2BE101J	J	100	1/8W	Carbon	AA
R2411	VRD-RA2BE101J	J	100	1/8W	Carbon	AA

MISCELLANEOUS PARTS

QPLGN0278GEZZ	J	Plug 2-pin, (CC) (CP) (CS)		AA
QPLGN0662CEZZ	J	Plug 6-pin, (Y1) (Y4)		AB
QPLGN0878GEZZ	J	Plug 8-pin, (SY)		AC
QPLGN0962CEZZ	J	Plug 9-pin, (Y3)		AC
QPLGN1062CEZZ	J	Plug 10-pin, (Y2)		AC

End of PWM-C

Ref. No.	Part No.	★	Description	Code

MISCELLANEOUS PARTS

SP301	VSP1208PB088A	J	Speaker (25AN1)	AS
SP301	RSP-Z0067CEN1	J	Speaker (29AN1)	AZ
SP302	VSP1208PB088A	J	Speaker (25AN1)	AS
SP302	RSP-Z0066CEN1	J	Speaker (29AN1)	AZ
⚠	CACCZ3022CE02	J	AC Cord	AM

End of MISCELLANEOUS PARTS

PACKING PARTS
(*NOT REPLACEMENT ITEM*)

SPAKC4512CEZZ	–	Packing Case (25AN1)	—
SPAKC4513CEZZ	–	Packing Case (29AN1)	—
SPAKP0537CEZZ	–	Polystyrene Mat	—
SPAKX2125CEZZ	–	Buffer Material (29AN1)	—
SPAKX2263CEZZ	–	Buffer Material (25AN1)	—
TLABK0001TAZZ	–	Number Card	—
SPAKC4539CEZZ	–	Packing Case (29AN1) (HONG KONG)	—
SPAKC4540CEZZ	–	Packing Case (25AN1) (HONG KONG)	—

End of PACKING PARTS

SUPPLIED ACCESSORIES

ACCESSORIES

QPLGA0011CEZZ	J	AC Plug Adaptor	AF
RRMCG0933CESA	R	Infrared Remote Controller	AW

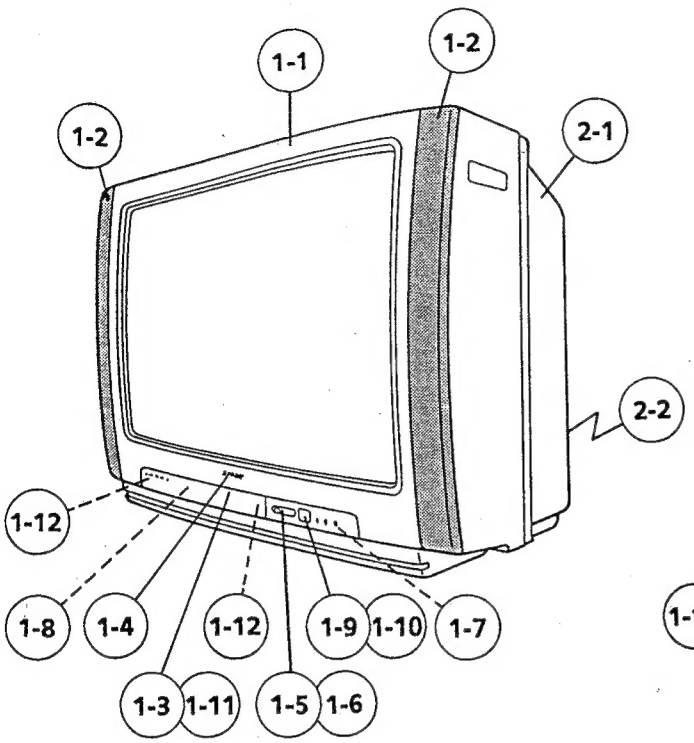
ACCESSORIES (*NOT REPLACEMENT ITEM*)

TINS-5005CEZZ	–	Operation Manual (29AN1)	—
TINS-5006CEZZ	–	Operation Manual (25AN1)	—
UBATU0023GEZZ	–	Dry Batteries, Size AAA (2 pcs)	—

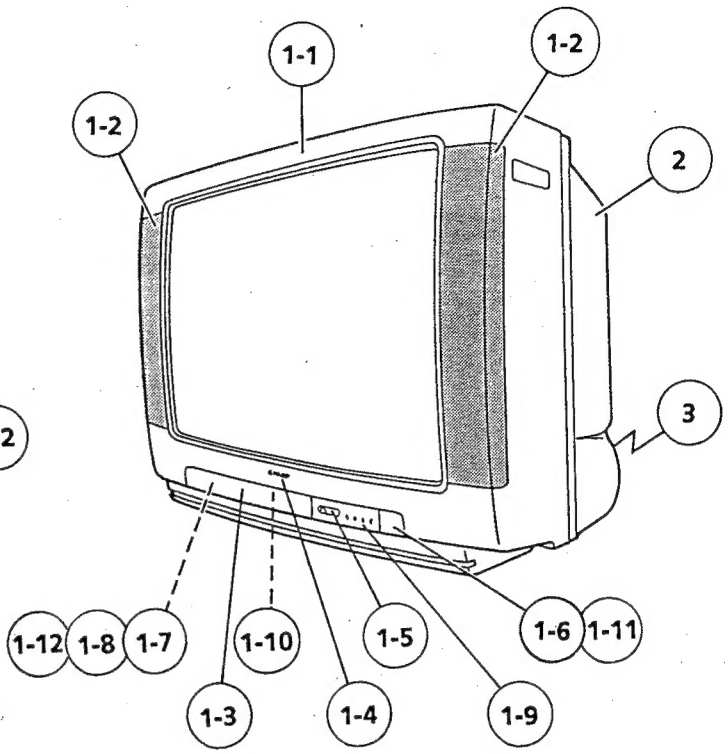
End of SUPPLIED ACCESSORIES

CABINET PARTS LOCATION

MODEL 25AN1



MODEL 29AN1



MODEL 25AN1 CABINET PARTS

Ref. No.	Part No.	★	Description	Code
1	CCABA2032CE01	J	Cabinet Ass'y, Front	BT
1-1	*Not Available*	–	Cabinet, Front	—
1-2	*Not Available*	–	Perforation Cover	—
1-3	GDORF1944CESA	J	Door	AL
1-4	HBDGB3097CESA	J	Badge "SHARP"	AG
1-5	HDECP0145CEZZ	J	Decoration Plate, R/C	AC
1-6	HDECQ0547CESA	J	Decoration Plate, Window	AE
1-7	HDECQ0548CESA	J	Decoration Plate, LED	AD
1-8	HiNDP4173CEZZ	J	Indication Plate, inside the door	AG
1-9	JBTN-1785CESA	J	Button, Power	AC
1-10	MSPRC0061CEFW	J	Spring, Power Button	AA
1-11	PKAi-1085CE00	J	Door Latch	AD
1-12	PSPAG0162CE00	J	Rubber Spacer	AA
2	CCABB2029CE01	J	Cabinet Ass'y, Rear	BG
2-1	*Not Available*	–	Cabinet Rear	—
2-2	HiNDP4175CEZZ	J	Indication Plate	AF

—— End of CABINET PARTS ——

MODEL 29AN1 CABINET PARTS

Ref. No.	Part No.	★	Description	Code
1	CCABA2033CE01	J	Cabinet Ass'y, Front	BS
1-1	*Not Available*		Cabinet, Front	—
1-2	*Not Available*		Perforation Cover	—
1-3	GDORF1911CESA	J	Door	AL
1-4	HBDGB3091CESA	J	Badge "SHARP"	AG
1-5	HiNDP3863CESA	J	Indication Plate	AD
1-6	JBTN-1714CESA	J	Button, Power	AC
1-7	HiNDP4171CEZZ	J	Indication Plate, inside the door	AF
1-8	HiNDP4172CEZZ	J	Indication Plate, reverse side the door	AE
1-9	HDECQ0502CESA	J	Decoration Plate, LED	AG
1-10	PKAi-1085CE00	J	Door Latch	AD
1-11	MSPRC0061CEFW	J	Spring, Power Button	AA
1-12	PSPAG0162CE00		Rubber Spacer	AA
2	CCABB1976CE02	J	Cabinet Ass'y, Rear	BM
3	HPNLH1041CEZZ	J	Rear Panel	AL

—— End of CABINET PARTS ——

25AN1
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